

For example, a more expansive fiscal policy in the USA – which would also pose risks – could lead to the central banks gradually abandoning their low interest-rate policy and oversupply of liquidity in the markets. The resulting increase in yields at the long end, associated with a steepening yield curve, could improve the conditions for investing own funds and managing liquidity. In addition, in such a scenario economic growth – driven by the USA – could turn out to be stronger than the level assumed in baseline planning.

A favourable macroeconomic scenario such as this would improve general conditions most notably for securities- and property-related asset management and capital market activities. This would be further boosted by the valuation of pension obligations. This scenario is seen as rather unlikely, however.

Opportunities on the market could also be generated by an even stronger shift towards funds for wealth creation. However, the Deka Group anticipates that this process will continue to take place only slowly, as the securities culture in Germany is not yet strongly developed. Nonetheless, if the popularity of funds and certificates should increase, due not least to effective multi-channel marketing, this would have a beneficial impact on net sales performance and total customer assets.

Strategic and other opportunities arise in connection with the systematic development of the business model of the Deka Group as the *Wertpapierhaus* for the savings banks. The resulting effects are already incorporated in the forecasts for 2017. They will only have a positive impact on the Deka Group's business and profit situation if their implementation is accomplished even more quickly, or if the effects are greater than expected.

## Risk report

### Risk policy and strategy

The basic principles underlying the Deka Group's risk policy and strategy remain largely unchanged from the previous year. To achieve its objectives, the Deka Group consciously incurs risk in line with strategic requirements in order to generate sustainable added value for its shareholders. The Deka Group utilises the advantages arising from the interconnection of its business activities in the areas of investment funds and real estate, and in its lending and capital market businesses, to successfully implement its vision of the *Wertpapierhaus*, while avoiding any conflicts of interest. Implementation of the business model, with customers as the key focus of business activities, may give rise not only to counterparty, market price and operational risks but, more particularly, to business and reputational risks as well as liquidity risks. These risks are limited by a comprehensive risk management system that covers all types of risk and all business divisions, sales and corporate centres in order to ensure the success of the Deka Group as a business.

The Deka Group's focus remains on added-value generating operations that are in demand from both the savings banks and their end customers where the risks are strictly limited and for which adequate expertise is available. As part of the long-term business strategy defined by the Board of Management and the risk strategy consistent with it, risk positions are entered into primarily in connection with customer transactions, when they can be hedged on the market.

In addition, risks are incurred if they are conducive to liquidity management or if they are required to leverage synergies in investment fund business. Business activities in new products or new markets, and the establishment or acquisition of new business units, are undertaken only after a thorough risk evaluation has been performed.

The framework for business and risk management is provided by the general risk appetite concept (Risk Appetite Framework – RAF), which forms the main basis for determining the adequacy of internal capital and liquidity and is an integral part of the Deka Group's strategy system. Starting with the desired risk profile and available risk capacity, appropriate risk limits are derived from these and regularly reviewed.

Risk appetite is determined taking into account the desired risk profile and available risk capacity. It represents the overall aggregated risk from individual risk types that the Deka Group is prepared to enter into, within the available economic capital resources, in order to meet its strategic objectives. In the Internal Capital Adequacy Assessment Process (ICAAP), risk appetite is defined as the allocated risk capital. Particular consideration is given here to risk concentrations to which the Deka Group consciously exposes itself in connection with its business model. The main examples of this are the Group's focus on the domestic public sector, on German savings banks and their customers, and on selected capital market participants and central counterparties, which is partly due to its function as a securities and collateral platform. In addition to risks that have an impact on the income statement, risk appetite is also defined in qualitative terms for non-financial risks, including reputational risk and compliance risk.

With regard to the Internal Liquidity Adequacy Assessment Process (ILAAP), the objective is to guarantee solvency at all times, even under hypothetical stress conditions – risk capacity being determined by the excess liquidity under non-stressed conditions in the funding matrix for normal business operations. The Deka Group has defined its risk appetite such that, under an extreme hypothetical stress scenario of a simultaneous idiosyncratic and market-wide stress event, an indefinite survival horizon exists. Compliance with this risk appetite is ensured firstly by illustrating the impact of the simultaneous occurrence of institute-specific and market-wide stress events in a "combined stress scenario" funding matrix. As a second step, limits on liquidity balances across all relevant maturities that allow only positive balances ensure that the Group is solvent at all times with an indefinite survival horizon. An early warning threshold set at €1.5bn represents a first escalation level in this context.

In accordance with the German Minimum Requirements for Risk Management (*Mindestanforderungen an das Risikomanagement* – MaRisk), the Group uses a systematic strategic process to ensure that its Group-wide business strategy, management and structure, as well as the divisional and sales strategies, are reviewed on a regular basis. The reviews consider whether they are consistent, complete, sustainable and up-to-date. The process covers the planning, implementation and evaluation of the strategies and any necessary adjustments to them. The use of business division-specific targets for risk and profit ensures that the business strategy is implemented appropriately in the business divisions.

The individual risk strategies developed for significant types of risk identified during the risk inventory are derived from the Deka Group's risk strategy as well as the strategies of the business divisions. These risk strategies provide specific details regarding risk monitoring and management. They are also reviewed at least once a year, revised if necessary, approved by the Board of Management and discussed with the Administrative Board. In the course of this process, DekaBank takes into account both external and internal factors, the underlying assumptions of which are reviewed regularly and on an ad hoc basis as necessary.

The targets set under the business strategy and risk strategies are quantified each year as part of the medium-term business planning process. This process involves formulating an integrated profit, capital and risk plan for each of the next three budget years, and also takes any potential adverse developments into account.

The Group performs a risk inventory on an annual basis and at other times as required, in order to determine which risks could have a significant negative impact on its financial position, including capital resources, earnings or liquidity. An efficiently structured risk inventory ensures that an overview of the overall risk profile of the Deka Group is available at all times. Taking into account risk concentrations, DekaBank has established limits (risk tolerances) for all risks classified as significant during the risk inventory and has implemented rigorous risk management.

## **Organisation of risk management and control**

### **Three Lines of Defence Model**

Risk management involves active management of the Deka Group's risk position. The distribution of risk-related activities and associated controls across several organisational units requires proper assignment and delineation of the respective responsibilities and functions. Ever-increasing importance is attributed to an effective and properly functioning risk management system across all organisational units, which has no control gaps, conflicts of interest or redundancy and takes into consideration the risk strategy of DekaBank. This also promotes clear-cut governance.

The 'Three Lines of Defence' model practised by DekaBank is designed to ensure compliance with and verification of the risk framework stipulated by the risk strategy. The operational business units responsible for positions are – as the first line of defence – responsible for managing, assessing and quantifying the risks identified in any business conducted. This also includes transactions to minimise total risk at Group level in day-to-day operations. The organisational units representing the second line of defence, such as Risk Control, operate independently of commercial units to ensure that compliance with the risk strategy is monitored and that the valuation and risk methods employed are adequate. DekaBank's Internal Audit function constitutes the third line of defence.

#### **Board of Management and Administrative Board**

The Board of Management is responsible for establishing, enhancing and monitoring the effectiveness of the risk management system. Within the risk management organisation the Board of Management makes decisions on the Deka Group's strategy and defines the amount of overall risk permitted at Group level. It also allocates economic capital to the respective types of risk and the business divisions, including the Treasury corporate centre and non-core business. In particular, it also decides the limits for the individual risk types at the Group level.

The Administrative Board, together with the relevant committees it has established – the Audit and Risk Committee and the Credit Committee – is responsible for monitoring the Deka Group's risk management system. Prior to every meeting of the Administrative Board, the Audit and Risk Committee meets to discuss in detail the matters impacting the Group's risk situation and risk management as well as its profit and financial position. In addition, it reviews the Group's strategic direction with the Board of Management. During these meetings, the Committee also receives reports on the findings of audits carried out by Internal Audit and the external auditors. The Credit Committee, which also meets in advance of the Administrative Board meeting, focuses on matters specific to counterparty risk in terms of the structure and development of the loan portfolio, discusses and decides on borrower-related limit structures and examines the development of loan loss provisions. It thus serves as the body that approves loans and discusses the business policy of the Deka Group's lending business with the Board of Management.

#### **Management committees, business divisions and corporate centres**

The Board of Management is supported in its management role primarily by corresponding management committees.

With due regard to the risk appetite, the Management Committee Risk (*Managementkomitee Risiko* – MKR) meets once a month and advises the Board of Management on matters regarding significant risks at Group level and on addressing, analysing and assessing issues that could have a significant influence on the total risk profile or profitability of the Group. The voting members of the MKR include the Head of the Risk Control department and the heads of the Risk Control, Credit Risk Office, Finance, Risk Control Capital Market Funds, Internal Services – Real Estate & Credit, Internal Services – Security Funds and Capital Markets Business, Compliance and Legal corporate centres. The MKR is supported in this function by sub-committees, which each have individual core duties.

The Management Committee Assets/Liabilities (*Managementkomitee Aktiv-Passiv* – MKAP), which meets every two weeks, primarily drafts resolutions on matters relating to the management of interest rates, currency, liquidity and refinancing and to the capital and balance sheet structure within the guidelines set by the Board of Management. In addition, it plays a role in limiting market price risk by making recommendations on the allocation of high-level limits for the Capital Markets business division and the Treasury corporate centre. The members of the MKAP include departmental heads responsible for Treasury, Risk Control and Finance as well as the head of Capital Markets business and the heads of the Treasury, Risk Control and Finance corporate centres. The heads of the Macro Research and Corporate Development departments participate as permanent, non-voting guests.

The Treasury corporate centre makes decisions in accordance with the limits recommended by the MKAP and set by the Board of Management, managing market price risks in the banking book as well as liquidity and refinancing for the Deka Group.

**Organisational structure of risk management in the Deka Group** (Fig. 17)

		Market price risk	Liquidity risk	Counterparty risk	Operational risk	Business risk	Property risk/ property fund risk	Shareholding risk
Administrative Board Audit- and Risk Committee	<ul style="list-style-type: none"> <li>- Overview of current risk situation/risk management system</li> <li>- Discussion of strategic direction with Board of Management</li> </ul>	●	●	●	●	●	●	●
Credit Committee	<ul style="list-style-type: none"> <li>- Loan approval committee</li> <li>- Discussion of the business direction in lending business with Board of Management</li> </ul>			●				
Board of Management	<ul style="list-style-type: none"> <li>- Determines strategic direction</li> <li>- Responsible for Group-wide risk management system</li> <li>- Sets return on equity target and allocation of risk capital to risk types and business divisions</li> <li>- Sets overall limit and approves limits within risk types</li> </ul>	●	●	●	●	●	●	●
Management Committee Risk (MKR)	<ul style="list-style-type: none"> <li>- Supports the Board of Management in matters relating to significant existing and forecasted risks</li> <li>- Supports the Board of Management with the evaluation of issues that have a significant effect on the overall risk profile</li> <li>- Preparation of draft resolutions for the Board of Management</li> <li>- Supplemented by various sub-committees</li> </ul>	●	●	●	●	●	●	●
Stress Testing Committee	<ul style="list-style-type: none"> <li>- Assesses and appraises stress scenarios and stress test results</li> <li>- Specifies stress testing processes</li> <li>- Reports and makes recommendations for action to the Board of Management</li> </ul>	●	●	●	●	●	●	●
Models Committee	<ul style="list-style-type: none"> <li>- Assessment of current trends and validation issues with regard to valuation and risk models</li> <li>- Central operational body for assessing model risks</li> </ul>	●	●	●	●	●	●	●
Country Risk Committee	<ul style="list-style-type: none"> <li>- Assesses country risks</li> </ul>			●				
Monitoring Committee	<ul style="list-style-type: none"> <li>- Monitors and manages non-performing and troubled loans or those on the watch list</li> </ul>			●				
Rating Committee	<ul style="list-style-type: none"> <li>- Enhances and maintains internal rating procedures</li> </ul>			●				
Risk Provisioning Comitee	<ul style="list-style-type: none"> <li>- Planning, management and monitoring of loan loss provisions</li> <li>- Monitoring and management of restructuring and liquidation cases</li> </ul>			●				
Risk Talk	<ul style="list-style-type: none"> <li>- Supporting the MKR/Board of Management in connection with risk management and monitoring processes in the Capital Markets business division's operational processes</li> <li>- Emphasis on market and counterparty-specific risk</li> </ul>	●	●	●	●	●		
Management Committee Assets/Liabilities ( <i>Managementkomitee Aktiv-Passiv</i> – MKAP)	<ul style="list-style-type: none"> <li>- Supports the Board of Management in matters relating to interest rate and FX management, liquidity and funding management, capital and balance sheet structure management</li> <li>- Proposes, introduces and monitors risk-mitigating measures in liquidity emergencies</li> <li>- Preparation of draft resolutions for the Board of Management</li> </ul>	●	●	●	●	●	●	●
Securities business division	<ul style="list-style-type: none"> <li>- Conducts transactions in line with strategic guidelines</li> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>	●	●	●	●	●	●	●
Real Estate business division	<ul style="list-style-type: none"> <li>- Conducts transactions in line with strategic guidelines</li> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>		●	●	●	●	●	●
Capital Markets business division	<ul style="list-style-type: none"> <li>- Conducts transactions in line with strategic guidelines</li> <li>- Makes decisions within the guidelines established by the MKAP and sets limits within the business division</li> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>	●	●	●	●	●		

		Market price risk	Liquidity risk	Counterparty risk	Operational risk	Business risk	Property risk/ property fund risk	Shareholding risk
Financing business division	<ul style="list-style-type: none"> <li>- Conducts transactions in line with strategic guidelines</li> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>		●	●		●		●
Treasury (Corporate Centre)	<ul style="list-style-type: none"> <li>- Conducts transactions in line with strategic guidelines and existing risk limits</li> <li>- Makes decisions within the guidelines proposed by the MKAP and established by the Board of Management and sets limits within the Corporate Centre</li> <li>- Manages market price risks in the banking book, manages the liquidity and refinancing of the Deka Group</li> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>	●	●	●				
Risk Controlling (Corporate Centre)	<ul style="list-style-type: none"> <li>- Development/update system to quantify, analyse and monitor risks</li> <li>- Reports to Board of Management and Administrative Board</li> <li>- Determines/monitors risk-bearing capacity</li> <li>- Monitors approved limits</li> </ul>	●	●	●	●	●	●	●
Credit Risk Office (Corporate Centre)	<ul style="list-style-type: none"> <li>- Administrative office for early risk identification</li> <li>- Market independent second recommendation</li> <li>- Reviews and/or approves ratings</li> <li>- Checks certain collateral</li> <li>- Monitors management of non-performing and troubled loans</li> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>			●				
Shareholdings (Corporate Centre Strategy & Shareholdings)	<ul style="list-style-type: none"> <li>- Manages equity investment portfolio</li> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>				●			●
Compliance (Corporate Centre)	<ul style="list-style-type: none"> <li>- Regulatory function of Compliance Officer as set out in the German Banking Act (KWG), German Securities Trading Act (WpHG) and German Investment Code (KAGB), along with the function of Money Laundering Officer pursuant to the German Money Laundering Act (GwG); Central Office in line with the requirements of the KWG</li> <li>- Fulfils function of Responsible Officer for QIs under FATCA</li> </ul>				●			
Information Security Management (Corporate Centre IT)	<ul style="list-style-type: none"> <li>- Ensures IT security and is responsible for business continuity management</li> </ul>				●			
Other Corporate Centres	<ul style="list-style-type: none"> <li>- Identifies, measures and manages operational risks on a decentralised basis</li> </ul>				●			
Internal Audit (Corporate Centre)	<ul style="list-style-type: none"> <li>- Audits and evaluates all activities/processes (especially risk management system)</li> </ul>	●	●	●	●	●	●	●

The main responsibility of the Risk Control corporate centre, which is independent of the business divisions, is to develop a standardised and self-contained system to quantify, limit and monitor all significant risks associated with the Group's business activities. Its risk measurement procedures are continually updated in line with economic and regulatory requirements, and their appropriateness is validated on a regular basis. Risk Control also monitors compliance with the limits approved by authorised decision makers, and immediately reports any limit breaches to them.

The Credit Risk Office corporate centre is responsible for providing a second opinion independent of front office operations, for creating and/or approving ratings and for verifying and approving specific collateral. In addition – acting independently of front office operations – the Credit Risk Office is responsible for closely monitoring and managing non-performing and troubled loans as well as for dealing with restructuring and liquidation cases (work-out engagements). It also acts as the central administrative office for early risk identification.

For the Deka Group, the Compliance corporate centre covers the regulatory functions of the Compliance Officer as set out in the German Banking Act (*Kreditwesengesetz* – KWG), the German Securities Trading Act (*Wertpapierhandelsgesetz* – WpHG) and the German Investment Code (*Kapitalanlagegesetzbuch* – KAGB). It also covers those functions assigned to the Money Laundering Officer pursuant to the German Money Laundering Act (*Geldwäschegesetz* – GwG) and KWG, and represents the “Central Office” in line with the requirements of the German Banking Act. Furthermore, the Compliance corporate centre fulfils the roles of Group Money Laundering Officer, the “Responsible Officer” as required for Qualified Intermediaries (QIs) under the Foreign Account Tax Compliance Act (FATCA), and the Information Security Officer. Alongside the provision of training and advice, the corporate centre assesses controls and procedures implemented by the operational units in relevant areas to determine whether they are appropriate and effective. In this way, by addressing any issues with the respective responsible specialist units, it enables compliance risks to be minimised for the Deka Group.

The Internal Audit corporate centre is an independent unit that supports the Board of Management and other management levels in their control and monitoring functions. It examines and assesses all activities and processes on the basis of an annual audit plan that is drawn up with a risk-based approach, using a scoring model, and then approved by the Board of Management. One of the unit’s most important tasks is to evaluate the business organisation with a focus on whether the internal control system and, in particular, risk management and monitoring are suitable and appropriate. Internal Audit also audits compliance with legal, regulatory and internal banking requirements. The Administrative Board is responsible for monitoring the internal audit system.

In addition, all corporate centres and business divisions are responsible on a decentralised basis for identifying, measuring and managing their respective operational risks.

#### **Sub-committees of the Risk Management Committee**

The Stress Testing Committee is responsible for determining the macroeconomic stress testing scenarios and processes to be performed across all risk types under Pillar II, and evaluating the economic results of the stress tests. In this way it supports the Board of Management in the overall assessment of the economic risk situation and in determining any necessary action to be taken.

The Models Committee is a Group-wide, cross-divisional body that pools together and assesses current trends and validation issues with regard to valuation and risk models, and prepares content accordingly for the MKR, the Board of Management or general management. The committee thus makes an important contribution to ensuring overarching consistency in the models employed. Furthermore, the Models Committee represents the central operational body for assessing model risks, with the aim of ensuring appropriate treatment of model risk in the Deka Group.

Additional committees that are relevant to counterparty risk management include the Country Risk Committee, which assesses country risk, the Monitoring Committee, which monitors and manages exposures at risk of default, the Risk Provisioning Committee, which plans, monitors and manages loan loss provisions as well as monitoring and managing restructuring and liquidation cases, and the Rating Committee, which monitors developments in the methodology for internal rating procedures and their implementation (see counterparty risk).

The duties of Risk Talk are to regularly analyse, discuss and make decisions regarding matters in connection with the risk management and monitoring processes in the Capital Markets business division’s operational processes. The emphasis is on the assessment, in relation to market or counterparty-specific risks, of matters that could significantly influence the risk profile and/or profitability of the Capital Markets business division.

#### **Reporting**

Appropriate and high-quality aggregation of risk data and reporting based on this provide the foundations for effectively monitoring and managing risk appetite within the framework of the risk strategy. Key instruments for risk reporting include firstly the monthly reporting on the economic risk situation and on the key regulatory liquidity ratios, and secondly the quarterly risk report in accordance with MaRisk, which provides the Board of Management and the Administrative Board with a comprehensive overview of risk-bearing capacity and the

significant types of risk. Furthermore, the Board of Management receives summary reports containing the key points on the current risk situation and on the corresponding utilisation of risk-bearing capacity. Depending on the type of risk, these reports may be provided on a daily basis or at a minimum once a month.

Risk concentrations in relation to individual counterparties (cluster risks) are reported on a monthly basis to the Board of Management and to the key risk committees. In addition, a detailed analysis of all individual counterparties classified as clusters and the associated segment concentrations in comparison to the guidelines set by the credit risk strategy is conducted on a quarterly basis as part of the quarterly risk report. If necessary, adjustments are made to the number and volume of the relevant counterparties.

Further overall reports also include quarterly reporting on macroeconomic stress testing, which examines key indicators material to the risk appetite under alternative scenario conditions. In this respect, stress testing performs a crucial early warning function.

Besides these overall reports, there are also corresponding reports for every type of operational limit that is set. These reports are used to monitor compliance with the respective guidelines on a daily basis. Any breach is immediately brought to the attention of the respective authorised decision maker – and in the event of material breaches, also the Board of Management.

#### **Further developments in risk management**

The general risk appetite concept (Risk Appetite Framework), which forms the framework for the business and risk management of the Deka Group, was further reinforced during the reporting period and integrated in detail into the business strategy. The strengthening of individual elements of the Risk Appetite Framework, which was supported by the establishment of a separate risk strategy that has been split out from the business strategy and is more closely based on regulatory concepts, did not result in any significant impact on the results of the risk inventory or on risk and capital planning. The same applies to risk-bearing capacity (including the complementary stress testing) and capital allocation as general concepts of risk management and monitoring.

Implementation of the 'Principles for effective risk data aggregation and risk reporting' (BCBS 239) continued as planned during the reporting year and will continue to be a critical project during the 2017 financial year. Furthermore, the Overall Bank Risk & Reporting unit was involved in the implementation of the regulatory provisions regarding recovery and resolution planning. The fifth amendment to MaRisk, discussed throughout 2016 during a consultation process, contains, among other things, more detailed specifications on outsourcing and IT management as well as on the above-mentioned risk reporting in accordance with BCBS 239.

The changes currently planned as part of Basel IV regarding the credit risk standardised approach (CRSA) and the Internal Rating Based (IRB) approach are being closely monitored with regard to their potential economic impact. The same applies with regard to the Fundamental Review of the Trading Book (FRTB) and the intended abolition of the advanced measurement approach (AMA) for operational risks, which could potentially also have an impact on Pillar II of the Basel framework.

The regulatory recognition process concerning the further enhanced internal model for calculating (partial) capital charges for market risk positions was completed during the course of the year under review. The market risk model, which has already been used for some time for the purposes of internal economic management (ICAAP), can thus now also be used to determine risk-weighted assets (RWAs) for the capital and reserves required in accordance with the Capital Requirements Regulation (CRR). This relates to the regulatory capital charges for general interest rate and share price risks. Implementation of the changes took place in the fourth quarter. Applying the model leads to a significant reduction in the relevant tied regulatory capital charges for market price risks and consequently to a release of – otherwise tied – regulatory own funds. Consequently, the implementation of the market risk model for reporting risk-bearing capacity under the going concern approach has resulted in lower utilisation of available free risk coverage capital being recorded. The regulatory recognition of the model confirms the high standards of the Deka Group in market risk management.

For operational risks, in the first half of the year the revised AMA model was put into use for economic management (ICAAP) and – following a positive decision by the supervisory authorities in the third quarter – also for determining the regulatory capital charges in accordance with the Capital Requirements Regulation (CRR). The changes to the models subject to regulatory approval related in particular to the procedure for combining internal and external loss data and to the way in which the distribution of loss levels is determined. In the economic risk-bearing capacity assessment, the risk-augmenting effect of implementing the changes to the models was more than offset by the removal of the general surcharge applied for that purpose in the previous year, amounting to €100m. In comparison to the 2015 year-end, the net amount reported in the corresponding economic risk figures was thus lower overall. Conversely, with regard to the regulatory capital requirement, the revised AMA model resulted in an increase to the capital charge for operational risk.

The interplay between the model changes for regulatory capital charges in relation to market risk and operational risk led to an overall reduction in the Deka Group's risk-weighted assets (RWAs). Although these were not relevant for economic risk management, there was a positive impact on the utilisation of risk-bearing capacity under the going concern approach, which is applied as a supplementary test.

The organisation of risk management and control remained largely unchanged compared with the end of 2015. Some adjustments related to Group-wide operational liquidity management across all maturities, which was pooled in the Treasury corporate centre, while the management of any securities investments not used as liquidity reserves was transferred from the Treasury corporate centre to the Capital Markets business division. The loan portfolio from non-core business was transferred to the Financing business division and will continue to be reduced while safeguarding assets. The changes were followed up as appropriate, particularly in reporting. This did not result in any fundamental changes, particularly in the organisation of risk control. The integration of S Broker into the risk management and control system and into the consolidated risk scope of the Deka Group was successfully completed during the year under review. The impact on the risk situation of the overall Group was negligible.

In order to satisfy the general changing regulatory requirements in a targeted manner and in order to more effectively address the relevant regulatory and economic developments from a risk policy perspective, during the reporting period DekaBank enhanced the relevant committee structure. As part of this, the MKR was assigned various existing and new subcommittees (Risk Provisioning Committee, Models Committee).

### **Overall risk position of DekaBank**

The risk position presented in the risk report is the Deka Group's overall risk position and is therefore in line with the definition which is also applied to the presentation of the Deka Group's expected business development and profit performance in the Group management report. This means that the report focuses on risks that are relevant from the point of view of the Group. Opportunities that might be used to counteract an increase in risk are presented separately in the opportunities report.

### **Risk definitions, concentrations and measurement**

The individual risk types for the purposes of risk monitoring and risk management are derived from the annual risk inventory. Risk types considered to be significant, which are backed by economic risk capital, include market price risk, counterparty risk, operational risk, and business risk. Liquidity risk is also classified as significant but is managed and monitored outside the risk-bearing capacity analysis.

#### ***Market price risk***

Market price risk describes the potential financial loss from future market fluctuations over a fixed time horizon and hence includes interest rate risk (including credit spread risk), currency risk and share price risk.

General interest rate risks result from changes in currency-specific swap curves, with different fixed-rate periods having an effect as well. These risks also include volatility risk in interest rate derivatives and options (cap/floor and swaption).

Credit spread risks depend on changes in the issuer-specific premiums on the reference curves. These premiums depend primarily on the creditworthiness of individual issuers or sectors. Premiums for individual issues (residual risks) are also relevant.

Share price risks are identified as risk factors via individual shares or indices and are influenced by risks from share or index volatility. The associated option risks or volatility risks are also taken into account here. Currency risks reflect changes in exchange rates.

The process for identifying and quantifying these risks does not differentiate between the trading book and banking book; the same procedures are applied for all DekaBank portfolios, irrespective of the portfolio type. In addition, market price risks are calculated taking into account guarantees that the Deka Group has provided for individual investment funds and are subject to a corresponding economic capital allocation.

#### ***Counterparty risk***

Counterparty risk is the risk of financial loss resulting from the deterioration in the creditworthiness of a borrower, issuer or other counterparty (migration risk) or when the counterparty is no longer able to fulfil its contractually-agreed obligations, or not able to fulfil them in a timely manner (default risk). Counterparty risk also includes country risk in the form of transfer risk, which results not from the business partner itself, but instead is due to its location abroad.

In principle, the Deka Group makes a distinction in counterparty risk between position risk, advance performance risk and potential future exposure (PFE) risk. Position risk comprises borrower and issuer risk, as well as replacement risk and open position risk. Borrower risk is the risk that outstanding loan payment obligations to the Deka Group are not paid or are not paid in a timely manner. Issuer risk is the analogous counterparty risk associated with securities. Replacement risk is the risk that if a business partner were to default, a replacement transaction would have to be conducted at less favourable market conditions. Open position risk (performance disruption) results if a delay occurs when a business partner performs a contractually agreed obligation. Advance performance risk represents the risk that a business partner will not pay the contractually agreed consideration after advance performance has been rendered by the Deka Group. Potential future exposure (PFE) risk comprises the risk arising from potential market price fluctuations in relation to repo/lending transactions, synthetic lending transactions and other derivatives transactions.

#### ***Operational risk***

Operational risk means the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

Operational risk also includes legal risks as long as these do not refer to future business activities. Reputational risks as a result of loss events are not included in the calculation of the loss potential, but they are taken into account in methods and procedures and are assessed from a qualitative perspective.

#### ***Business risk***

Business risk comprises potential financial losses resulting from changes in customer behaviour, competitive conditions or the general economic and legal framework. The Deka Group considers all factors that have an unexpected negative impact on profit as a result of volume and margin changes, and are not attributable to any other type of risk, to be material.

#### ***Reputational risk***

Reputational risk describes the danger that developments and loss events that have occurred in connection with other types of risk can have a negative impact on the external image of the Deka Group, thereby diminishing the trust that customers, business and sales partners, rating agencies or the media have in the Bank's competence. This can lead to additional losses, declining revenue, lower liquidity levels or a lower enterprise value. In view of this, reputational risks are not seen as a separate type of risk, but rather as a component of, or as factors that increase, business and liquidity risk.

**Model risk**

Model risk refers firstly to potential losses arising from errors in the design, implementation or use of valuation or risk models, or from incorrectly evaluating the appropriateness of a particular model. It is treated as a sub-category of operational risk. Model risks are incorporated directly into the Deka Group's risk-bearing capacity by developing and assessing corresponding scenarios as part of the self-assessment process.

Model risk also describes the risk of potential losses arising as a result of the deliberate selection, specification, choice of parameters or calibration of models, and that as a consequence could lead to uncertainty in the valuation or, where relevant, to it being insufficiently taken into account in risk-bearing capacity.

Model risks in relation to valuation models are directly recognised by creating appropriate provisions for models under liabilities. By contrast, model uncertainties arising from the specifications of risk models are viewed in conjunction with the respective risk type and specifically examined using detailed validation exercises. If necessary, a buffer is created for model uncertainties as part of the annual risk capital planning process; this reserved economic capital is consequently no longer available for allocation.

**Liquidity risk**

In terms of liquidity risk, the Deka Group makes a distinction between insolvency risk (liquidity risk in the stricter sense), liquidity maturity transformation risk and market liquidity risk.

Insolvency risk describes the risk that the Deka Group cannot meet its current and future payment obligations in a timely manner because the Group's liabilities exceed the available liquid funds.

Liquidity maturity transformation risk describes the risk that arises from a change in DekaBank's own refinancing curve in the event of imbalances in the liquidity-related maturity structure.

Market liquidity risk is understood as the risk that transactions cannot be settled or closed out, or can only be settled or closed out with losses, due to inadequate market depth or because of market disruptions.

**Further types of risk**

The risk inventory process has identified other types of risk that currently, however, have only a minor influence on the Group's risk-bearing capacity.

The Deka Group defines shareholding risk as the risk of financial loss due to impairment of the portfolio of equity investments, insofar as they are not consolidated in the balance sheet and therefore already included under other types of risk.

Property risk describes the risk of a decline in the value of property held in the Deka Group's own portfolio.

Property fund risk results from the possibility of an impairment in the value of property fund units held in the Group's own investment portfolio.

In addition to considering risks that have an impact on the income statement and liquidity risks, non-financial risks are also relevant to the Deka Group. To the extent that it is either possible or meaningful to do so, these are taken into account through their allocation to business or operational risks as part of the risk-bearing capacity analysis. Furthermore, qualitative guidelines on risk tolerance have been defined for the non-financial risks identified as particularly relevant during the annual risk inventory.

**Risk concentrations**

Risk concentrations describe those risks arising primarily from an uneven distribution of business partner relationships or an uneven sensitivity of the portfolio in relation to major risk factors which could subsequently lead to significant economic losses for the Deka Group.

Risk concentrations can occur both within the major risk types (intra-risk concentrations) as well as between different significant types of risk (inter-risk concentrations). These are a focus of risk management and monitoring in terms of tools looking at specific types of risk as well as those that apply across risk types.

#### **Business-division-specific risk profiles**

The individual business divisions have unique risk profiles because they are a consolidation of specific types of business activities.

##### ***Securities business division***

Because of its focus on active management of securities funds and on fund-linked investment solutions and services, this business division principally generates operational and business risks for the Deka Group. These may be exacerbated by reputational risks in connection with the “Deka” brand or other Deka Group brands. In addition, managed guarantee products create counterparty and market price risks for the Deka Group. S Broker, which is part of the Securities business division, was integrated into the Deka Group’s risk management system. With its product-independent securities trading platform and low-volume deposit, securities and lending business, it did not have a material impact on the risk situation of the business division.

##### ***Real Estate business division***

As with the Securities business division, active fund management creates operational and business risks in this business division. Alongside the funds business, DekaBank’s property financing activities are also assigned to the Real Estate business division. Property lending leads to counterparty risk, although this lending usually involves individual loans with a different regional focus. As part of the enhancements made to the way business activities are structured and allocated, due to a clearer separation between banking business and asset management, from 2017 onwards property financing has been separated from the Real Estate business division and allocated to the Financing business division.

##### ***Capital Markets business division***

In the Capital Markets business division, customer-driven business activities give rise to market, counterparty and issuer risks. The result primarily from currency, securities lending and securities repurchase transactions, from trades in financial instruments with financial institutions, savings banks, funds and companies, and in relation to the strategic investments of DekaBank. Market price risks in the context of the Capital Markets business division’s liquidity investment activities, which involve strategic investment, primarily result in spread risks, and to a lesser extent interest risk. In addition, the division consciously exposes itself to risk concentrations, above all when supporting Deka funds and savings banks with the provision of liquidity. As the central securities and collateral platform in the association, the Deka Group generates economies of scale and scope. This results especially in concentrations with increased gross risk in relation to individual major banks, market makers that act for the Deka Group and central counterparties. Furthermore, there are risk concentrations in relation to individual Landesbanks as association partners. The collateral in securities lending transactions can also give rise to risk concentrations in collateral, which are limited by the rules in the Collateral Policy.

##### ***Financing business division***

The business activities of the Financing business division in the segments it focuses on (essentially financing of savings banks, infrastructure, aircraft and ships, as well as export finance backed by export credit agencies (ECAs)) create corresponding focal points, primarily in counterparty risks. In accordance with the business model, this also leads to regional risk concentrations in Germany, as well as to sector-based risk concentrations in relation to the financial sector.

##### ***Treasury***

The Treasury corporate centre’s various functions, especially management of the liquidity reserve, give rise to counterparty risk, particularly in relation to Germany and the public sector. As a result, this leads to market price risks, primarily in the form of credit spread risks, and liquidity risks.

### ***Non-core business***

Lending and products in non-core business lead primarily to counterparty and market price risks. Going forward, the Group aims to decrease its risk position here even further by continuing to reduce volumes while preserving assets.

### **Overall concepts of risk measurement**

The Deka Group essentially uses three tools for overall management and monitoring of the risks that result as part of the strategic requirements of the Group's business activities. These tools comprise the risk inventory, risk and capital planning, and risk-bearing capacity (including stress testing) and capital allocation. These are supplemented with specific individual tools for operational management and monitoring of individual types of risk. These individual tools are described in the respective sections covering the individual risks.

### ***Risk inventory***

The Deka Group determines and assesses its overall risk profile using a risk inventory that is performed on both a regular and an ad hoc basis. All significant risks and the associated risk concentrations are identified in this process. The risk inventory is the starting point for the analysis of risk-bearing capacity and, together with the risk strategy, forms the basis for the design of further risk management tools. It is divided into a preliminary analysis, a review of the risk universe for relevance and materiality to the Deka Group and the individual business divisions, and preparation of the results. In addition, major risk issues for the Deka Group are discussed each month by the MKR.

### ***Risk and capital planning***

The risk-bearing capacity of the Deka Group is determined both in terms of the current situation and based on forecast business activity. As part of the medium-term business planning process, DekaBank's Board of Management sets out the risk appetite for operational activities and its allocation to the individual types of risk and for the business divisions, covering the next three budget years. This process also allows potential risk concentrations to be effectively addressed at an early stage. Any adjustments needed during the year are undertaken when recommended by the MKR and adopted by a resolution of the Board of Management.

### ***Risk-bearing capacity and capital allocation***

To safeguard its risk-bearing capacity, the Deka Group primarily follows a liquidity-oriented approach (liquidation approach), in which the focus is particularly on ensuring the protection of creditors at all times in the hypothetical event of liquidation. This requires that even extremely rare risk situations are included in the analysis.

As part of this liquidation approach, the Deka Group's total risk includes at a minimum all significant types of risk with an impact on the income statement, and is determined by adding these together. Diversification effects between individual types of risk are not taken into account as part of this process. The total risk of the Deka Group is measured as an economic capital amount that is highly likely to be sufficient to cover the losses from all significant risk positions at any time within one year.

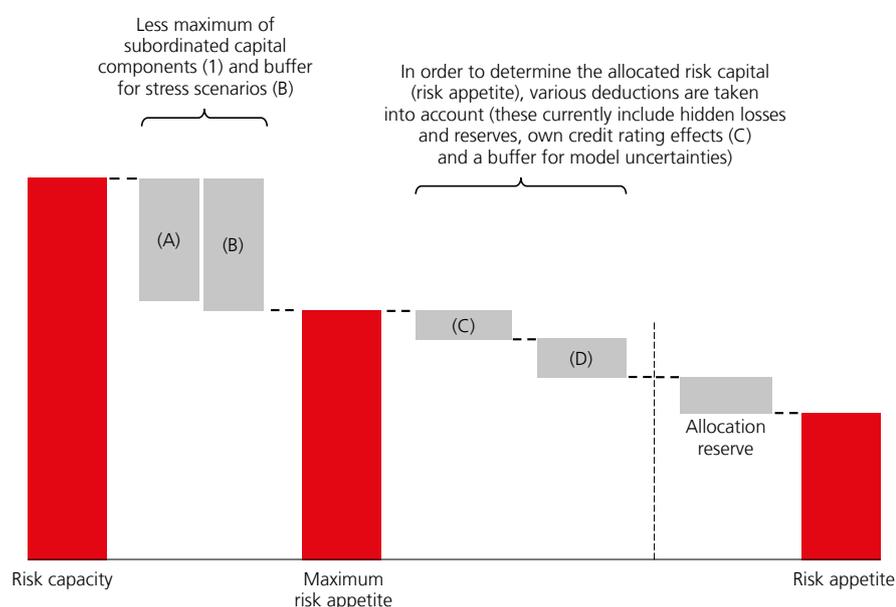
DekaBank uses the value-at-risk approach (VaR) in order to quantify individual risks on a uniform basis and to aggregate them as an indicator for overall risk. The calculation of VaR for a one-year holding period is made for internal management purposes with a confidence level of 99.9%. This level is derived from the business model with reference to an S&P rating at the level of a stand-alone credit profile of "a-".

The total risk of the Deka Group that is derived from the individual types of risk is compared to the Group's risk cover potential available to offset losses. The liquidation approach takes into account all available components of capital that do not negatively impact creditors in the event of a hypothetical liquidation. In the liquidation approach, the total available risk cover potential, i.e. the risk capacity, consists mainly of equity capital in accordance with IFRS and earnings components and positions with a hybrid capital nature (subordinated capital), adjusted using amounts to correct for specific capital components, such as intangible assets or risks arising from pension obligations. This risk cover potential is available – in the sense of a formal total risk limit – to safeguard risk-bearing capacity.

In order to reflect extreme market developments and turbulence in the context of risk-bearing capacity and to guarantee this at all times, a capital buffer is explicitly reserved for stress scenarios, based on the risk capacity. This corresponds at a minimum to the level of subordinated capital components, including Additional Tier 1 capital. The maximum risk appetite, which is the result of risk capacity less the capital buffer for stress scenarios, represents the primary control parameter for the allocation of risk capital.

Taking into account other deductions (for example, a buffer for model uncertainties in relation to the risk models used) as well as an allocation reserve, this results in risk capital, which the Board of Management allocates to the business divisions (including the Treasury corporate centre and non-core business) and to risk types (including property risk, property fund risk and shareholding risk) in the form of risk appetite.

### Risk capacity and risk appetite (Fig. 18)



The utilisation ratios for risk capacity, the maximum risk appetite and the allocated risk capital in the form of risk appetite may not exceed 100%. For the utilisation of the maximum risk appetite, a warning threshold of 90% has been established as part of risk reporting.

In addition, the Deka Group regularly determines its risk-bearing capacity based on the going concern approach as a supplementary procedure to assess risk-bearing capacity. Here the primary focus is on the extent to which and how often (time horizon) the Deka Group can incur risks without endangering its ongoing existence, while simultaneously complying with the relevant regulatory capital requirements. This means that in principle risks can only be incurred to the extent that capital components are not already committed due to compliance with previously defined secondary conditions. Secondary conditions that are taken into account include both a Common Equity Tier 1 capital ratio of 11.0% as an advance warning threshold and a Common Equity Tier 1 capital ratio of 9.5% as a threshold value. In order to take account of the new capital requirements under the Capital Requirements Directive (CRD IV), at the start of the year the ratio set as the advance warning threshold for regulatory tied capital was raised by 0.5%. In contrast to the liquidation approach, the risks in the going concern approach are considered based on the assumed continuation and intention to hold investments to maturity and with regard to the time horizon deemed relevant to risk management. DekaBank evaluates risks using the going concern approach with a confidence level of 95.0% and a holding period of one year, which corresponds to a time horizon of once in 20 years.

The results of the risk-bearing capacity analysis under the two approaches and the allocation as calculated using the liquidation approach (the primary approach for management purposes) and its utilisation are determined on a monthly basis and reported to the Board of Management. The Audit and Risk Committee and the Administrative Board are informed on a quarterly basis.

### ***Stress tests and scenario analyses***

Macroeconomic stress tests across all risk types and scenario analyses based on specific risk types are performed based on the liquidation approach for all significant types of risk, in order to assess the impact of extreme market developments on risk capacity. These tests help identify areas for action at an early stage as soon as crisis situations start to appear.

In the stress tests performed across all risk types, extraordinary but nonetheless plausible scenarios are examined. These cover historical scenarios, such as the crisis on the financial markets, hypothetical stress situations, such as the default of important individual counterparties, and idiosyncratic stress situations. Reputational risks are also systematically included in the stress tests. Furthermore, DekaBank also performs reverse stress tests, examining specific manifestations of scenarios that in the context of Deka Group's specific business model, and taking into account the associated risk concentrations, would lead to the risk-bearing capacity limit being reached.

When needed, the scenarios are supplemented with relevant ad hoc analyses. The effects of these stress scenarios performed across all risk types are determined for all relevant profit and risk indicators and then compared with the resulting scenario-specific risk cover potential.

The results of the stress tests performed for all risk types are determined quarterly, assessed by the Stress Testing Committee and reported to the Board of Management, the Audit and Risk Committee, and the Administrative Board.

The regular annual reviews of the scenarios performed across all risk types were carried out in the third quarter of 2016. This resulted in an update to the economic description of hypothetical and idiosyncratic stress scenarios and partial adjustments to parameterisation. In particular, a hypothetical scenario concerning the euro debt crisis was updated in light of current politico-economic developments in the eurozone.

### **Overall risk position in the 2016 financial year**

During the reporting year, the model, employed by the Deka Group for economic risk management continued to reflect the corporate and market situation in an appropriate and timely manner. For example, the negative interest rate environment was swiftly incorporated into the valuation models for financial products. The impact of various market developments, for instance in connection with Brexit, was anticipated in differentiated forms and accompanied by proactive control measures.

Utilisation of the moderately reduced risk capacity declined markedly during the year under review. In this regard, all significant individual risk types relevant to ICAAP recorded a decrease compared to the previous year-end, with counterparty and market price risks declining particularly strongly. The economic risk situation thus remained at a non-critical level overall.

Under the liquidation approach, which is used for management purposes, the Deka Group's overall risk (value-at-risk or VaR, with a confidence level of 99.9% and a holding period of one year) stood at €2,039m as at the end of 2016 (end of 2015: €2,440m). The reduction in counterparty risk was first and foremost attributable to position reductions in strategic investments and to the overall drop in migration risks. This more than compensated for the risk-augmenting effect caused by individual downgrades to ratings and the integration of S Broker positions. The reduction in bond positions in both the Capital Markets business division and the Treasury corporate centre had a risk-reducing impact on market price risks. An increase in the Securities business division due to the integration of S Broker positions as well as rising risks from guarantees were not material. With regard to operational risks, the increasing effect on reported risk from implementing the revised quantification model was more than offset by the elimination of the buffer previously adopted for this purpose, so that VaR diminished overall compared with the 2015 reporting date. Business risk backed by economic capital also was significantly below the level of

the 2015 year-end. Alongside decreased volatility in the securities sector, this was primarily attributable to the reduced contribution made by the general risk surcharge, due especially to reduced counterparty and market price risks in the capital markets business. Overall, the risk level of the remaining types of risk included in the analysis of risk-bearing capacity was still below the low level of the 2015 year-end.

#### Change in Group risk over the course of the year

(Fig. 19)

€m					
Dec 16	1,156	258	231	395	2,039
Sept 16	1,198	314	238	428	2,179
June 16	1,400	404	240	457	2,502
Mar 16	1,374	339	242	465	2,420
Dec 15	1,357	346	275	463	2,440

■ Counterparty risk      ■ Market price risk  
■ Operational risk      ■ Other risks

#### Change in Group risk over the course of the year – other risks

(Fig. 20)

€m					
Dec 16	356	20	19	0	395
Sept 16	393	20	15	0	428
June 16	422	22	12	0	457
Mar 16	426	26	13	0	465
Dec 15	422	28	13	0	463

■ Business risk      ■ Shareholding risk  
■ Property fund risk      ■ Property risk

Total risk, which reduced by 16.4%, was offset by a slight decline in risk capacity to €5,785m (end of 2015: €5,868m). The increase in retained earnings from the partial reinvestment of 2015 net income was offset in particular by actuarial losses from pension provisions, an increased deduction for deferred taxes and a decline in the adjustment items relating to own credit rating effects. Utilisation of risk capacity was 35.2% at the reporting date, noticeably below the level at the end of 2015 (41.6%). It remained at a non-critical level throughout the whole of the year under review.

The maximum risk appetite, which does not incorporate subordinated capital (including AT1 capital and perpetuals), fell by €207m in comparison to the 2015 year-end (€4,492m) to €4,285m. The major drivers for this were an increase in the capital buffer for stress scenarios, which was approved during planning, as well as the variables that determine risk capacity. Due to the disproportionate reduction in total risk, utilisation nonetheless decreased to 47.6% (end of 2015: 54.3%).

The stress scenarios that are run on a regular basis across all risk types also confirmed that risk capacity was assured in all scenarios at the end of the year. The forecast utilisation of risk capacity as at the relevant reporting dates in 2016 stood below 100% for all scenarios. In one scenario, concerning the failure of a systemically important bank, the utilisation was continuously above the early warning threshold of 80%. In addition, for the updated scenario concerning the euro debt crisis, the utilisation was above 80% at the end of the third and fourth quarters.

Under the going concern approach, which is examined as a supplementary test, utilisation of available risk cover potential also significantly reduced when compared with the end of 2015. With a Common Equity Tier 1 capital ratio of 11.0%, utilisation of the remaining risk cover potential (with a confidence level of 95.0% and a holding period of one year) was 30.8% at the 2016 reporting date (end of 2015: 51.8%), and therefore remained at a non-critical level. The lower deductions for regulatory tied capital, due in particular to the first-time application of the new quantification model for market price risks, resulted in an increase in the available risk cover potential. This contrasted with a drop in total risk, primarily as a result of declining counterparty and market price risks, which was also caused by reducing positions.

### Market price risks

#### Strategic framework and responsibilities

The Deka Group's market price risk strategy, based on the Group's risk strategy, stipulates parameters for risk management in all organisational units regarding all positions in the trading and banking book that are exposed to market price risk. It sets objectives, priorities and responsibilities for market price risk management and, together with the liquidity risk strategy, governs the business focus of trading activities (trading strategy).

Within the risk management organisation, the Board of Management decides the market price risk limits for the Group as a whole, as well as at the level of the business divisions, including the Treasury corporate centre and non-core business. The respective division head is responsible, in consultation with the head of Risk Control, for defining the limits set at the level of the Capital Markets business division and Treasury, or reallocating them between existing limits where appropriate. The allocation of limits reflects both organisational structure and the distinction between the trading and the banking book.

The MKR makes recommendations with respect to the definition of the framework for the management of strategic market-price risk positions to the Board of Management, which then adopts the corresponding resolutions. In its capacity as a sub-committee, Risk Talk supports the MKR and the Board of Management in relation to the Capital Markets business division's operational processes for managing and monitoring market risk. To do so, it conducts in-depth analysis on a range of issues relating to market and counterparty risks and makes recommendations and binding decisions on matters that influence the Capital Market business division's risk profile. The Treasury corporate centre and Capital Markets business division are responsible for carrying out transactions and maintaining positions. In terms of market price risks, they are solely responsible for the implementation of strategic guidelines and operational management within the prescribed risk limits.

#### **Focus, structure and degree of risk associated with business activities**

With respect to market price risk, the Deka Group's business model focuses primarily on conducting business in interest and equities-related products. For this purpose, the Group mainly uses established products and markets with adequate market liquidity and market depth due to their international acceptance. No business is conducted involving physical delivery of precious metals and goods. Open risk positions are entered into only within the allocated market price limits.

In its function as a securities and collateral platform, the Capital Markets business division enters into open positions, in the context of customer business, in a predefined amount exclusively in particularly liquid securities with high credit ratings. Proprietary trading not directly linked to customers takes place only for the purposes of managing risks from the customer business or for overall risk management purposes. The primary risks that result from these activities are credit spread risks, as well as interest rate, equity, option and currency risks. Whenever economically justified, risks are covered using hedging instruments. The requirements for recognition of hedging relationships do not always correspond with the methods used for internal bank management purposes. It is therefore possible that differences may arise between the economic and accounting hedging relationships.

In repo and securities lending business there is a direct link with DekaBank's securities portfolios. Customer transactions have a significant influence on the Bank's liquidity base, which is managed centrally by Treasury. Collateralised financing is also conducted as part of customer business. Due to its business model, DekaBank has a surplus supply of securities and collateral that can be invested in customer business to minimise risk. To this end, traditional (reverse) repo transactions and synthetic financing or lending substitute transactions are carried out.

In bond trading, positions are established in the bonds of public issuers, financial service providers and corporations, among others. The focus here is on market-making for customers, therefore long-term positions are generally not entered into.

Positions are established for structuring purposes in both securities and derivatives – especially options – in equities and interest rates. The resulting interest-rate-option and equity-option risks as well as the general position risks are hedged using derivatives. When economically justified, the equity and interest rate risks arising from primary and secondary market positions for structured products are hedged.

Strategic investments predominantly comprise positions for which the refinancing volume has resulted from DekaBank's customer-driven business and is not needed for lending operations. The key risks in this regard are interest rate and credit spread risks.

Management of the liquidity reserve is centralised in the Treasury corporate centre. The investment focus of liquidity investments is currently on bonds issued by German federal states, German development banks, German run-off institutions, German *Pfandbriefe*, supranational institutions and investment-grade corporate bonds. These investments primarily give rise to credit spread risks, which are closely monitored and reduced, when needed, through disposals or via credit derivatives. Monitoring fund products provided with guarantees and managing market risk in the banking book involves further market risks. In the latter case, risk management relates primarily to interest rate, basis and currency risks, with exchange-traded derivatives sometimes also being used.

Interest rate and currency risks that result from liquidity management in Treasury are managed using derivative instruments, whereas the market price risks arising from refinancing and equity-capital management are hedged using internal transactions where possible as well as using external and internal derivatives.

The Deka Group's investment management companies are generally not subject to any market price risks beyond those associated with the investment funds. However, market price risks can arise for the Deka Group if products are provided with a guarantee. Market price risks from guarantee products are incorporated into the analysis of risk-bearing capacity and allocated to the Securities business division.

#### **Management and limit-setting**

Market price risk is monitored on a daily basis. The basis for this monitoring is a system of operational limits that is consistent with the Group's overall risk-bearing capacity. This system defines limits in line with the business model for the various portfolio levels and risk categories. In addition, limits are set based on operating metrics such as sensitivities. Stop-loss limits are another management tool that the Group has established to limit losses. In the event that a stop-loss is exceeded, the MKR will immediately take steps towards mitigation.

#### **Value-at-Risk (VaR)**

VaR is calculated with a confidence level of 99.9% and a holding period of one year when analysing risk-bearing capacity; when determining the utilisation of operating limits DekaBank calculates VaR for a holding period of ten days and a confidence level of 99.0%.

The operating VaR therefore corresponds to the maximum loss on a position held over a period of ten trading days, with a probability of 99.0%.

VaR key ratios are determined on a daily basis for all relevant risk categories and portfolios and are compared with the associated portfolio-specific limits.

To determine VaR, a sensitivity-based Monte Carlo simulation is used across all portfolios. This simulation ensures that all market price risks are identified in an integrated manner. The foundation for the calculation is volatilities and correlations that have been determined based on historical changes in market parameters. Market correlations within the risk categories of interest rates and credit spreads, and currencies and equities are taken into account, as are the correlations between the risk categories.

#### **Sensitivity-based management metrics**

The input parameters for this risk model are the sensitivity metrics delta, gamma and vega. These first and second ranking sensitivities express the price sensitivity of financial instruments to changes in underlying risk factors and are used to determine overall risk. They are also available as additional management metrics for risk assessment purposes.

Sensitivity analyses are defined as simple shifts in the different risk factors for interest rate, credit spread, share price and exchange rate movements. The sensitivity analyses are used to support the operational management of the risks from trading and treasury positions.

To calculate share price risk, each share is included as an individual risk factor and considered accordingly when determining risk. The specific interest rate risks (credit spread risks) are calculated on an integrated basis using the sensitivities of the underlying segment-specific or name-specific credit spread curves. There are also residual risks relating to individual issues.

The model ensures that all risk factors associated with the trading strategy are identified, including non-linear risks and credit spread risks. Daily risk measurement is performed for all types of market price risk, both in the trading book and the banking book. This guarantees a comprehensive view of all market price risks, while adequately taking into account concentration and diversification effects by including correlations across all portfolios and risk types.

Market price risks that result from granting guarantees are measured using an approach specifically developed for this purpose and geared towards risk-bearing capacity, which does not take into account diversification effects with regard to other market price risks.

#### ***Scenario considerations and stress analyses***

The limit system is supplemented with regular market price risk-specific stress tests. Using these tests, the sensitivity of the portfolio is constantly tested with regard to a wide variety of trends in the various risk factors. Once again, the focus is on risks that are particularly relevant, using separate, portfolio-specific analyses. In addition, the value-at-risk metric is complemented by stressed value-at-risk, which evaluates the risk potential in a period of financial stress.

Market price risks are also an important component in the analysis of significant macroeconomic scenarios. The effects of this analysis, which covers all risk types, are investigated on a quarterly basis and serve as an early warning mechanism for the Bank regarding its risk-bearing capacity.

The main components of the portfolio are also addressed as part of this analysis by performing a detailed review of credit spread trends, particularly in the financial sector and among domestic public issuers.

#### ***Backtesting of VaR risk ratios and validation***

Various steps are taken to test the quality of the VaR forecast, including regular backtesting for various portfolio levels. In this process, the daily results that are theoretically achieved assuming unchanged positions on the basis of the market developments observed on the following day are compared with the forecast value-at-risk figures for the previous day. In addition, dirty backtesting regarding the actual change in value is also carried out, taking trading activities into account. The backtesting findings are also used to enhance the risk model. The results are reported on a quarterly basis. Overall, the backtesting results confirm the suitability of the market price risk measurement at both the bank level and at the level of subordinate organisational units. In addition, the approximation error of the delta-gamma approximation is reviewed on a monthly basis by carrying out a full valuation of the portfolio.

Risk models are validated on both a regular and ad hoc basis, and the results play an important role in assessing whether the models are adequate. Accordingly, any requirements for further development that arise from the validation procedure are then integrated into the process for identifying and quantifying risks. Overall, the validation exercises carried out confirm that the market risk model is appropriate.

#### ***Current risk situation***

Market price risk at Group level (measured using value-at-risk with a confidence level of 99.9% and a holding period of one year) fell significantly at the end of the 2016 financial year to €258m (end of 2015: €346m). This was due first and foremost to reduced bond positions in both the Capital Markets business division and the Treasury corporate centre, which lowered credit spread risks. In non-core business, risk continued to fall as a result of the steps taken to wind down this portfolio while safeguarding assets. By contrast, an increase in market price risk in the Securities business division due to the incorporation of S Broker together with a market-induced increase to risk in relation to guarantee products were less pronounced.

At the end of 2016, market price risk for the Deka Group excluding guarantee risks (measured by value-at-risk with a confidence level of 99.0% and a holding period of ten days) totalled €29.5m (end of 2015: €45.6m). Utilisation of the operating management limit for Treasury and capital markets business decreased to 42.3% (end of 2015: 44.3%) and therefore remained at a non-critical level.

**Value-at-Risk – Deka Group excluding guarantees<sup>1)</sup>**  
(Confidence level 99%, holding period ten days) (Fig. 21)

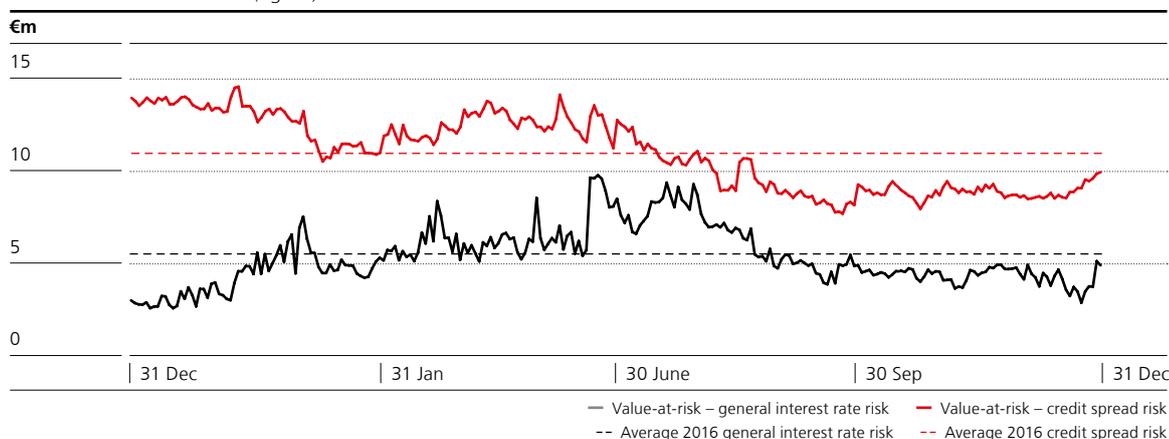
€m	31 Dec 2016				31 Dec 2015				Change in risk
	Treasury and Capital Markets business division	S Broker	Non-core business	Deka Group excluding guarantees	Treasury and Capital Markets business division	S Broker	Non-core business	Deka Group excluding guarantees	
Interest rate risk	28.1	2.3	5.1	29.2	44.0	0.0	7.4	45.5	-35.8%
Interest rate – general	13.7	2.6	1.5	14.8	8.5	0.0	2.5	7.9	87.3%
Spread	29.1	1.2	4.7	30.7	42.5	0.0	6.8	43.8	-29.9%
Share price risk	3.3	2.1	0.0	3.2	1.2	0.0	0.0	1.2	166.7%
Currency risk	4.2	0.1	1.1	3.7	2.1	0.0	1.4	0.9	311.1%
<b>Total risk</b>	<b>28.4</b>	<b>3.4</b>	<b>5.1</b>	<b>29.5</b>	<b>44.3</b>	<b>0.0</b>	<b>7.4</b>	<b>45.6</b>	<b>-35.3%</b>

<sup>1)</sup> Risk ratios for interest rate risk and total risk taking account of diversification. Includes issue-specific credit risk spread

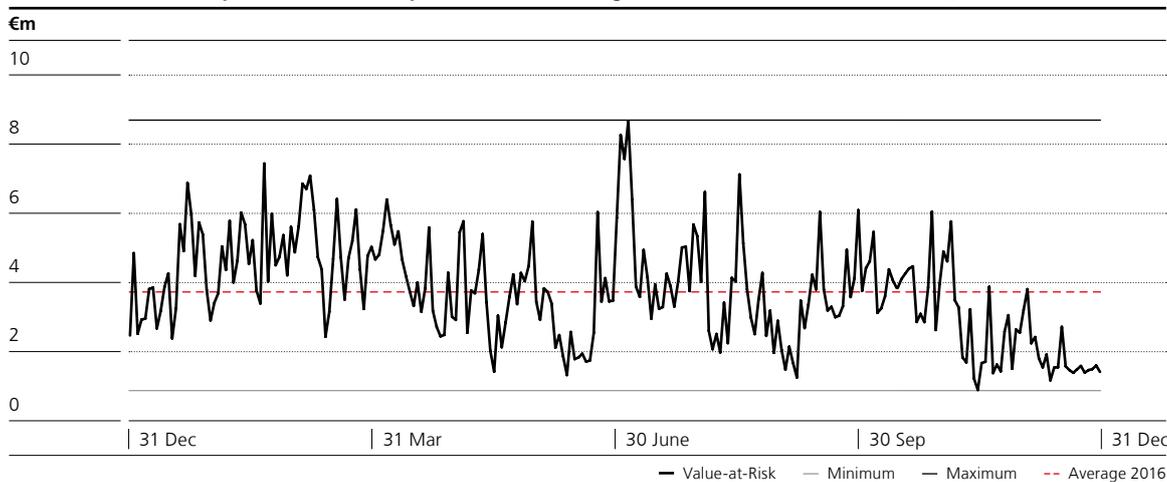
At the end of the reporting year, the VaR for credit spread risk reduced to €30.7m (end of 2015: €43.8m). The primary cause of the risk reduction was a substantial planned reduction in bond positions, in both the Treasury corporate centre and the Capital Markets business division. A significant proportion of the credit spread risk was attributable to the Strategic Investments unit in capital markets business as well as to Treasury's management of the liquidity reserve. As in the previous year, bonds issued by German federal states, run-off institutions and development banks played a significant role here. In non-core business credit spread risk declined moderately as a result of the continued reduction in positions.

The VaR for general interest rate risk increased compared to the 2015 year-end position (€7.9m) to €14.8m. The increase in general interest rate risk was driven by the Capital Markets business division and by Treasury's market risk position. One significant factor leading to the rise was the modified positioning with regard to the maturity profile. The risk increase was also attributable to the first-time inclusion of S Broker.

**Value-at-risk – General interest rate risk and credit spread risk in the Capital Markets trading book over the course of 2016** (Fig. 22)



Share price risk increased over the course of the year from €1.2m to €3.2m, but as such remained of relatively minor significance. Share price risk in the Capital Markets business division trading book totalled €1.5m (2015: €2.5m).

**Value-at-risk – Share price risk in the Capital Markets trading book over the course of 2016 (Fig. 23)**

Currency risk, which resulted mostly from positions in British pounds and US dollars, had a VaR of €3.7m at the end of 2016 (end of 2015: €0.9m) and therefore remained immaterial. Currency risk in the Capital Markets business division trading book increased to €0.6m (end of 2015: €0.4m).

**Value-at-risk – Currency risk in the Capital Markets trading book over the course of 2016 (Fig. 24)****Counterparty risk****Strategic framework and responsibilities**

The credit risk strategy stipulates the parameters for all Deka Group transactions that involve counterparty risk. It serves in particular as the foundation for the Group's counterparty risk principles for loans as defined by Section 19 Para. 1 of the KWG and describes the business divisions and segments that are the focus of lending activities – including the specific risk determinants and minimum standards for new business. Furthermore, the credit risk strategy serves to distinguish between the individual risk segments and governs the handling of intra-risk concentrations and cluster risks. All lending decisions that deviate from the credit risk strategy are classified as significant and must be reported in the credit risk report in accordance with MaRisk.

The credit risk strategy applies to all organisational units of the Deka Group. The strategy is specified by the Board of Management, reviewed at least once a year and discussed with the Administrative Board. Counterparty risks are monitored and managed in accordance with standard principles, regardless of whether the risks stem from trading or non-trading transactions.

In the context of risk-bearing capacity, counterparty risks are limited by allocating risk capital (risk appetite) both overall and at business division level. For individual counterparties, risk is restricted using a limit system based on factors such as creditworthiness, collateral, duration and country and sector considerations. Management and monitoring of risk concentrations (cluster risks) also takes place at individual counterparty level. Depending on the risk segment concerned, strict lending standards are also applied, for instance in connection with structure and adequate risk sharing by the borrower. In addition, a blacklist is used in line with the credit risk strategy to avoid undesirable lending business that could involve reputational risks or an increased level of risk, or which does not meet the high sustainability requirements.

In accordance with MaRisk, there must be a clear functional separation in the lending business between the "front office" and the "back office". The responsibilities performed by the "back office" particularly include monitoring risks at borrower and portfolio level, reporting, reviewing specific items of collateral and making decisions regarding loan-loss provisioning for major exposures. Responsibility for applying rating and risk classification procedures, and for establishing, reviewing and monitoring those procedures is also classified as a back office function, as is the management of non-performing and troubled loans.

Authority levels for lending decisions are in line with the net total limit and the gross limit or gross amount. The approval of the Board of Management and potentially the additional consent of the Credit Committee are necessary, depending on the amount and the rating limits.

For the purposes of strategically managing and monitoring counterparty risks and their risk concentrations, a number of sub-committees have been assigned to the MKR. The Rating Committee regularly analyses and assesses the internal rating procedures employed for measuring risk and, where relevant, their inclusion in the pooling system developed in joint projects with the Rating Service Unit GmbH (RSU) and S-Rating und Risiko-systeme GmbH (SR). The Monitoring Committee is responsible for regularly analysing and discussing matters in connection with the methods and procedures employed for early risk identification as well as for monitoring and managing exposures with increased counterparty risk (non-performing loans and those on the watch list). The duties of the Risk Provisioning Committee include regularly analysing and discussing matters in connection with planning, monitoring and managing loan loss provisions, and also monitoring and managing exposures in serious danger of defaulting (restructuring and liquidation cases) in the lending business as well as in the securities portfolios in the LaR and HtM categories.

Responsibilities for the assessment and monitoring of country risks are consolidated in the Country Risk Committee. The committee discusses country ratings on both a regular and ad hoc basis. It also defines country limits and determines measures to reduce overruns of country limits and other risk-reducing measures.

#### **Focus, structure and degree of risk associated with business activities**

Counterparty risks are incurred both in the individual business divisions and the Treasury corporate centre.

In the Capital Markets business division, counterparty and issuer risks arise from currency, securities lending, securities repurchase and derivatives transactions entered into, and from trades in financial instruments. They also arise in relation to any of Deka Group's securities investments that do not serve as a liquidity reserve to meet regulatory requirements, which the Capital Markets business division took over from the Treasury corporate centre at the start of 2016. When supporting investment funds and savings banks with the provision and management of liquidity, the division consciously exposes itself to risk concentrations in relation to savings banks, selected capital market participants and central counterparties. These are managed both at individual counterparty level and via appropriately diversified securities portfolios.

As a result of the business model, the Treasury corporate centre is mainly exposed to concentrations in respect of financial institutions and public authorities and, from a regional perspective, in respect of domestic counterparties.

In the Financing business division, counterparty risks arise in part from infrastructure and transport financing. The Financing business division also includes business with domestic savings banks as well as financing of the domestic public sector. Due to the limited volume of financing in the business division in relation to the Deka Group's total

loan volume, there are no risk concentrations in these areas. The business is focused on Germany due to its close involvement in the savings banks association and its transactions with the domestic public sector. There is thus a country concentration as a result of the business model. In addition, the Deka Group's ownership structure and its function in the savings bank association lead to a sector concentration in financial institutions.

In the Property Financing subdivision loans that are granted are secured by a mortgage over the property that generates the cash flow. Financing for open-ended property funds is an exception to this, if it is possible to base this on the credit quality of fund assets via the assignment of claims for expense reimbursement. This collateral limits the risk of losses that can result from payment problems associated with repayments made using the cash flows generated by the property. Given the overall limited financing volume and the broad diversification of the portfolio, there are no risk concentrations.

In the Securities business division, counterparty risks for the Deka Group arise predominantly from contractually binding commitments made in connection with guaranteed fund and pension products and from the proprietary investments of DekaBank and S Broker AG & Co. AG.

#### **Management and limit-setting**

When managing its counterparty risk, the Deka Group makes a distinction between the overall analysis at the total portfolio level and operational management using a multi-level system of limits that are based on volumes.

#### ***Portfolio model***

The starting point for the strategic analysis of counterparty risk is the allocation of capital, which is derived from the calculation of the Deka Group's risk-bearing capacity. It is the foundation for the limitation and monthly monitoring of counterparty risk at total portfolio level and at the level of individual business divisions, including the Treasury corporate centre and the non-core business. The allocation is quantified based on the Deka Group's credit portfolio model, which is used to determine the portfolio's risk of loss in the form of a credit value-at-risk (CVaR) metric for a one-year holding period and at a confidence level of 99.9% (using the liquidation approach), in line with DekaBank's target rating. Risk concentrations are taken into account directly through this model: portfolios that have a strong concentration on individual groups of counterparties, regions or sectors involve a higher economic capital commitment than those that are more diversified. The individual risk premiums are reviewed on a monthly basis to provide a foundation for overall management decisions.

#### ***Operating management limits***

The Deka Group utilises a system of fixed, complementary volume-based limits for daily operational management purposes. In light of the concentration on specific groups of counterparties, regions and sectors that results from the Group's business model, the limitation of both unsecured volume (net limitation) and the internal framework (gross limitation) plays a central role in this process. The amount of the limits is primarily oriented towards the internal rating of the corresponding counterparties. To limit concentration, additional targets are defined for the maximum permissible limit per individual counterparty. Particularly important counterparties from a business policy perspective (clusters) are also subject to additional reporting above a specific amount. Further minimum requirements for the quality of the collateral received apply to especially significant repo/lending transactions. These requirements are contained in the collateral policy. Furthermore, liquidation risks associated with repo/lending transactions are further limited by the application of supplementary limits in order to take into account potential fluctuations in the value of the underlying securities.

Loans that involve specific project, sustainability or reputational risks are not entered into. Detailed risk determinants and minimum standards have also been established for the individual financing categories.

The explicit limitation of country risks serves to effectively limit positions in countries with elevated risk. Only the risk position relating to Germany is excluded from this process of limit-setting.

In retail customer lending business, counterparty risks are limited by the provision of collateral.

### **Quantification of counterparty risk**

Gross counterparty risk is mainly determined through market prices and outstanding amounts receivable. The outstanding receivable amount is used for advance performance risk and open items. The adjusted gross position is then calculated by deducting specific insolvency-proof collateral. The overall net position is arrived at by deducting additional collateral and positions that reduce risk, with valuation of collateral following the internal regulations that apply in each case.

In order to achieve consistency between the strategy system, management tools and risk reporting, the concepts of volume used in risk reporting – gross or net loan volume – are closely aligned with the metrics used for limit-setting, namely adjusted gross position and overall net position. Gross and net loan volumes referred to below relate to the adjusted figures.

The assessment of counterparty risks for individual borrowers includes the use of internal rating systems. Borrowers are assigned to an internal rating class with corresponding estimates of the probability of default (PD).

The rating modules currently used are tailored to different classes of receivables, including companies, banks, governments and for special lending and project financing. These include classic scorecard modules through which creditworthiness is assessed on the basis of current quantitative and qualitative borrower characteristics. Simulation-based modules, in which the probability of default is estimated using simulated macro and micro scenarios for the relevant risk drivers regarding the expected cash flows, are also used. In addition to the modules mentioned above, expert methods are also used for particular types of financing.

When measuring the transfer risk on payment obligations that are denominated in a foreign currency from the borrower's perspective, the borrower rating is influenced by the country rating.

All of the rating modules in use are calibrated to a one-year probability of default. The rating classes are uniformly assigned according to the probability of default based on the master scale of the German Savings Bank and Giro Association (*Deutscher Sparkassen- und Giroverband* – DSGV). This scale serves as a standard reference for a differentiated creditworthiness assessment. The DSGV master scale provides for a total of 21 rating classes for non-defaulting borrowers and three for defaulting borrowers.

Counterparty risks from a portfolio perspective are assessed with the help of an internally developed credit portfolio model. The portfolio model is largely based on a credit metrics approach. In addition to default risks, the risks arising from a change in ratings are also taken into consideration. The probability distribution for changes in the value of the loan portfolio is generated using a Monte Carlo simulation.

A key output of the portfolio model is that it determines a CVaR with a holding period of one year and a confidence level of 95.0% (using the going concern approach) or 99.9% (using the liquidation approach). Risk concentrations are taken into account by considering the dependency structure of risk factors. In particular, the modelling approach selected considers dependencies between crisis events. The expected shortfall (ES) is also calculated to supplement the CVaR.

The standard risk costs incorporated into the calculation of the expected return on equity are based on an expected-loss approach and relate to the likelihood of default, the loss rate and the maturity of the transactions. The cost of equity is determined using risk amounts differentiated by individual transaction and corresponding sector and regional allocations. Risk concentrations are included for individual counterparties (clusters), regions and industries by taking into account the cost of equity in the structuring of loan terms.

### **Management and monitoring of counterparty risks**

The Deka Group's counterparty risk, as determined by CVaR, is directly compared with allocated risk capital (risk appetite). In this way, counterparty risks are monitored based on a redistribution of the CVaR to individual transactions and reaggregation to the business divisions.

Counterparty risk positions are managed using a volume-based limitation of the net position and the adjusted gross position. Prior to concluding a credit transaction, a net total limit must be established by the respective authorised decision maker for each borrower and each borrower unit.

In addition – with just a few defined exceptions – a gross limit must be established for each borrower unit. The borrower-related net total limit is divided into sub-limits for position risk, advance performance risk and PFE risk.

As a supplement to its volume-based limits, the Deka Group uses thresholds for risk concentrations in connection with individual counterparties, known as clusters. This entails further precautionary procedures for large exposures and monitoring routines for risk concentrations as appropriate. Thresholds for sectors are not meaningful due to the Deka Group's specific business model, and are thus not taken into account.

The Risk Control corporate centre monitors the limits using a centralised limit-monitoring system at both the borrower-unit level and the borrower level. A comprehensive and market-based early warning system ensures that the individual counterparties subject to limits are monitored so that, in the event of extraordinary developments, countermeasures can be taken at an early stage. At a portfolio level, an analysis of the most significant borrowers and sectors is also carried out, based on CVaR.

Maximum country limits are derived from a limit matrix, which is calculated based on a foreign currency (FC) country rating and the gross domestic product. Individual country limits within the limit matrix are approved by the Country Risk Committee. The Risk Control corporate centre monitors compliance with the respective country limits. Overruns are reported immediately to the members of the Country Risk Committee and to the Capital Markets Credit Risk Management unit. This unit acts as the central administrative office for country limits. An analysis of the most significant countries or regions is also carried out from a portfolio perspective, based on CVaR.

The Deka Group has issued extensive processing and valuation guidelines for collateral obtained in lending and trading transactions. The procedures for verifying valuation of collateral received in the course of lending business, including guarantees, sureties, charges on commercial and residential property, registered liens and the assignment of receivables, are applied on an annual basis. Valuation of collateral and of any discounts applied to it is primarily based on the creditworthiness of the party providing the guarantee, or in the case of asset collateral, on the market value, fair value or lending value of the financed property.

Management and monitoring activities also focus on financial collateral provided in the form of securities and obtained as part of repo/lending transactions. These comprise by far the largest share of the collateral portfolio as compared to the lending business.

The Group's collateral policy defines the minimum requirements for counterparties and for securities borrowed by counterparties, or the securities received from counterparties as collateral in repo/lending transactions. In addition, risk concentrations are restricted for each counterparty using concentration limits for equities and bonds, and rating-dependent volume restrictions.

The Capital Markets business division is responsible for compliance with the requirements of the collateral policy. It is supported operationally in this regard by the Capital Markets Collateral Management unit. A review independent of trading is performed daily by the Capital Markets Risk Management unit. In addition, an analysis of collateral is reported to the MKAP on a monthly basis.

#### ***Performance of stress tests***

In addition to the macroeconomic stress tests performed across all risk types, additional sensitivity tests are conducted specifically for counterparty risk. Examples of scenarios include a rating downgrade for public authorities, federal state banks and savings banks, as well as an increase in loss ratios for, or a failure to take into account specific collateral. The results of the stress tests are determined quarterly and reported to the Stress Testing Committee, the Board of Management, the Audit and Risk Committee and the Administrative Board. They therefore enable the Group to identify areas for action as early as possible if crisis situations start to unfold.

### **Default monitoring**

The Monitoring Committee is operationally responsible for monitoring and managing non-performing and troubled loans or those on the watch list. This includes specifying early warning indicators and criteria to allocate exposures to different monitoring levels.

Operational responsibility for monitoring and managing restructuring and liquidation cases lies with the Risk Provisioning Committee. The latter is also responsible for regularly analysing and discussing matters in connection with planning, monitoring and managing loan loss provisions.

When establishing loan-loss provisions, loan receivables are reviewed individually to determine whether there is objective evidence of impairment. If the Bank identifies an impairment, it recognises a specific provision in the corresponding amount. For receivables against which no specific provision is made, default risk and transfer risk are taken into account by recognising general provisions at the portfolio level. Portfolio-level general provisions for creditworthiness risks relate to impairments in the credit portfolio that had already occurred at the reporting date but which had not yet been identified. General portfolio provisions for country risks must be recognised where the internal rating in accordance with the DSGV master scale is 10 or worse (for further information on the establishment of general portfolio provisions for country risks, see notes to the consolidated financial statements). Departures from this rule must be justified on a case-by-case basis. A specific provision may still be created for countries with better ratings if called for by the particular circumstances. Provisions are created to take account of creditworthiness risks in off-balance sheet lending business.

### **Current risk situation**

The counterparty risk determined using credit value at risk, or CVaR (confidence level of 99.9% and a holding period of one year), reduced substantially at the end of the 2016 financial year to €1,156m (end of 2015: €1,357m). As in previous years, utilisation levels remain moderate. The reduction in loan portfolios and bond positions, particularly in Strategic Investments, and the drop in migration risks made a major contribution to the decline in CVaR. In addition, the materialisation of risks through recognising specific loan loss provisions for existing ship financing loans had the effect of reducing risk. This more than compensated for the risk-augmenting effects that resulted, among other things, from the integration of S Broker and selective rating downgrades. The risk position of the cluster portfolio is assessed using a redistribution based on expected shortfall and this also resulted in a noticeable decline compared to the previous year, with the number of counterparty clusters also falling considerably. The reorganisation of the treasury portfolio involved a transfer of the proportionate CVaR to the Capital Markets business division. Transfers also took place from non-core business to the Financing business division due to reclassification of loans.

At €124.3bn at the 2016 year-end, gross loan volume was below the prior-year value (€142.3bn). In the financial institutions risk segment, which accounted for almost half of the gross volume, the decrease was due especially to reductions in commercial paper and a fall in reverse repo volumes in the Capital Markets business division, including with central counterparties. The reduced loan volume with savings banks reflects their declining demand for liquidity. In the domestic public sector segment, positions in bonds and commercial paper issued by public authorities were cut back in particular. Gross loan volume in the funds risk segment also decreased, which was caused by lower repo/lending volumes. Overall, gross loan volume in the remaining risk segments fell slightly.

The ship portfolio accounted for 1.3% of gross loan volume (end of 2015: 1.2%). Due to the lack of a recovery in charter rates in certain segments, this sub-portfolio carries a greater risk of default, which was taken into account through a corresponding increase in the loan loss provision. As a result of the difficult market climate, the ship-ping loan portfolio is being closely followed and monitored on an ongoing basis.

**Gross loan volume** (Fig. 25)

€m	31 Dec 2016	31 Dec 2015
Financial institutions	57,619	67,673
Public sector Germany	12,364	15,112
Corporates	11,812	11,823
Savings banks	10,511	14,585
Funds (transactions and units)	13,567	14,500
Property risk	7,364	7,122
Transport and export finance	5,295	5,293
Energy and utility infrastructure	1,342	1,327
Other	4,463	4,910
<b>Total</b>	<b>124,336</b>	<b>142,344</b>

In view of the high proportion of collateralised business, net loan volume stood at €49.9bn (end of 2015: €59.3bn), more than €74bn lower than gross loan volume. The disproportionate decline compared to gross loan volume was essentially due to the fact that the reduction in collateralised reverse repo business had no impact when viewed on a net basis. The same applied in relation to the decline in covered bonds and *Pfandbriefe* in the domestic public sector risk segment. At the same time, the above-mentioned changes in the gross loan volume also had a corresponding impact on net loan volume.

In non-core business, both gross and net loan volume stood at only €0.8bn (end of 2015: €1.1bn). Hence, over the last few years, more than 90% of the original loan volume has been reduced in accordance with the credit risk strategy, while safeguarding assets.

**Net loan volume** (Fig. 26)

€m	31 Dec 2016	31 Dec 2015
Financial institutions	16,259	21,979
Public sector Germany	3,646	2,948
Corporates	6,342	6,162
Savings banks	9,894	14,180
Funds (transactions and units)	7,630	7,348
Property risk	1,258	1,541
Transport and export finance	938	672
Energy and utility infrastructure	1,327	1,298
Other	2,637	3,143
<b>Total</b>	<b>49,931</b>	<b>59,272</b>

The credit portfolio remained heavily focused on the eurozone during the reporting period, although its share of gross loan volume fell to 70.9% (end of 2015: 72.4%). Key reasons for this included the reduction in bond positions, declining demand for liquidity at savings banks and the fall in reverse repo volumes with central counterparties. In the course of this, volumes attributable to Germany also fell by €10.3bn to €54.5bn. The gross loan volume attributable to the second and third largest countries in the eurozone – Luxembourg and France – was 11.4% and 5.3% respectively of the total gross loan volume. The gross loan volume attributable to Luxembourg fell by €1.1bn to €14.2bn, due in particular to fewer lending transactions with own investment funds. As a result of both reductions in commercial paper and reduced repo volumes, the gross loan volume attributable to France fell by €3.6bn to €6.6bn. Volumes in the other eurozone countries also fell. In EU countries outside the eurozone gross loan volume decreased primarily due to a reduction in commercial paper with British counterparties. The gross loan volume attributable to the UK thus also fell by 6.9% to €17.6bn. In OECD countries outside the European Union, gross loan volume fell, predominantly because of reduced repo/lending volumes with Swiss counterparties.

**Gross loan volume by region** (Fig. 27)

€m	
Eurozone	88,110
	103,052
EU excluding eurozone	19,366
	20,696
OECD excluding EU	13,138
	14,882
International organisations	792
	627
Other countries	2,930
	3,087

■ Gross loan volume 31 Dec 2016    ■ Gross loan volume 31 Dec 2015

The gross loan volume relating to borrowers in Italy, Spain, Ireland and Portugal increased marginally compared with the figure at the end of 2015 (€3.8bn). As at the reporting date, counterparties from the aforementioned countries accounted for €4.1bn or a 3.3% share (end of 2015: 2.7%) of overall gross loan volume. There continued to be no direct loan volume relating to borrowers classified under Greek country risk. Of the gross loan volume attributable to counterparties in Russia totalling €0.3bn (end of 2015: €0.5bn), around 81% is secured by ECA guarantees issued by the Federal Republic of Germany. DekaBank continues to have no exposure in Ukraine.

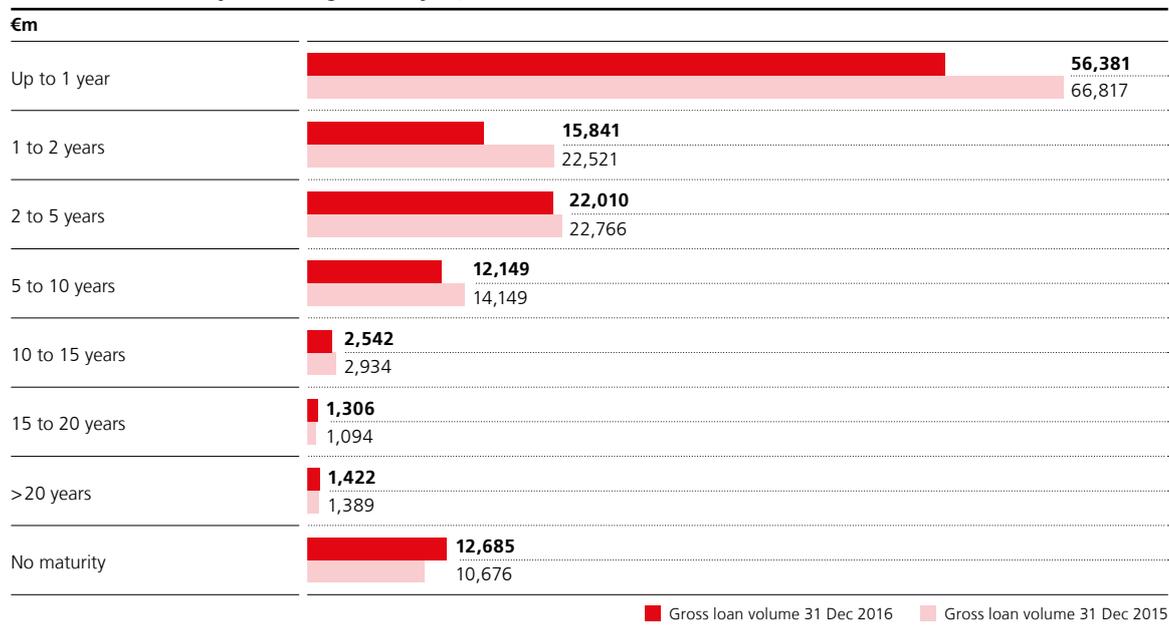
**Gross loan volume by PIIGS countries and sector as at 31 December 2016** (Fig. 28)

€m	Greece	Ireland	Spain	Italy	Portugal	Total
Central government	0	20	328	254	17	618
Public sector	0	0	0	0	0	0
Banks	0	0	1,515	509	0	2,024
Corporates	0	505	294	476	0	1,276
Other	0	0	74	70	0	144
<b>Total</b>	<b>0</b>	<b>525</b>	<b>2,212</b>	<b>1,308</b>	<b>17</b>	<b>4,062</b>

**Change vs. previous year**

Central government	0	-12	186	-107	0	67
Public sector	0	0	0	0	0	0
Banks	0	0	346	-272	0	74
Corporates	0	59	43	71	0	173
Other	0	0	-9	-17	0	-26
<b>Total</b>	<b>0</b>	<b>47</b>	<b>565</b>	<b>-325</b>	<b>0</b>	<b>288</b>

The gross loan volume remained focused primarily on the short-term segment. During the reporting year, the proportion of transactions with a residual maturity of less than one year decreased from 46.9% to 45.3%. Among other things, this reflects the Deka Group's continued central function as a provider of short-term liquidity to the *Sparkassen-Finanzgruppe*. By contrast, the share of maturities of ten years or more accounted for 4.2% (previous year: 3.8%). The average legal residual term of the gross loan volume amounted to 2.8 years, thus showing a minor increase compared to the 2015 year-end of 0.2 years.

**Gross loan volume by remaining maturity** (Fig. 29)

The level of risk concentration in the loan portfolio reduced substantially during the reporting year and, in view also of the creditworthiness of major counterparties, continues to be deemed reasonable and appropriate. As at 31 December 2016, 19.6% (end of 2015: 29.2%) of gross loan volume was attributable to borrower units with a gross limit of at least €2.5bn or an overall net limit of at least €1.0bn (counterparty clusters). This was influenced by the reduction in the number of counterparty clusters due to various limit reductions, as well as by the classification of one counterparty as a central counterparty, with this counterparty being classified as an exception. 33.8% of the cluster portfolio related to counterparties from the domestic public sector, savings banks and other alliance partners.

In addition to transactions with central counterparties, high-volume loans comprise mainly collateralised transactions such as repo/lending transactions, most of which are collateralised with securities, derivative transactions concluded under netting agreements, and covered securities such as *Pfandbriefe* or securities either issued or backed by the Federal Republic of Germany. Due to the extensive level of collateralisation, only 12.6% of net loan volume related to counterparty clusters.

As per the 2015 reporting date, the average rating for the gross loan volume at the end of 2016 stood at 3 on the DSGV master scale. The probability of default remained virtually unchanged, amounting to 16 bps as at the end of 2016. Viewed from a net perspective, the rating also remained unchanged at 3, with an average probability of default of 17 bps (end of 2015: 18 bps). The Bank therefore still achieved its target rating of investment grade for the portfolio as a whole. The further slight downgrade in the rating versus the level as at 30 June 2016 (gross: rating of 2, net: rating of 3) was mainly attributable to the reduction in commercial paper positions, a decline in repo transactions with counterparties with good ratings, and lower demand for liquidity from savings banks with top ratings. Isolated instances of deteriorating creditworthiness in ship financing transactions were an additional factor. Overall this resulted in a slight backlog of negative changes with regard to rating migrations. At the end of 2016 around 82.1% of net loan volume remained in the same grouping (determined by rating class) as at the end of 2015.

**Net loan volume by risk segment and rating** (Fig. 30)

€m	Average PD	Average	31 Dec 2016	Average PD	Average	31 Dec 2015
	in bps	rating		in bps	rating	
Financial institutions	20	3	16,259	18	3	21,979
Savings banks	1	AAA	9,894	1	AAA	14,180
Corporates	14	2	6,342	19	3	6,162
Public sector international	5	A+	1,887	6	A+	2,284
Public sector Germany	1	AAA	3,646	1	AAA	2,948
Public infrastructure	39	5	568	35	5	628
Transport and export finance	284	10	938	612	12	672
Energy and utility infrastructure	71	6	1,327	61	6	1,298
Property risk	18	3	1,258	16	3	1,541
Retail portfolio	5	A+	141	6	A+	157
Funds (transaction and units)	14	2	7,630	15	3	7,348
Equity investments	26	4	41	18	3	75
<b>Total</b>	<b>17</b>	<b>3</b>	<b>49,931</b>	<b>18</b>	<b>3</b>	<b>59,272</b>

**Operational risk****Strategic framework and responsibilities**

The strategy determined by the Deka Group to deal with operational risks (OR strategy) is the basis for the way in which the Group is organised to manage operational risks. It defines the framework for the Group-wide structure and operation of a standard system for identifying, assessing, monitoring and managing operational risks. The OR strategy applies to all organisational units of the Deka Group.

**Roles and responsibilities**

Due to the process-specific nature of operational risks (OR), the Deka Group pursues a decentralised approach to identify, measure and manage them. This approach is based on coordinated collaboration between the units set out below.

The Board of Management has overall responsibility for the appropriate handling of operational risks in the Deka Group. In this respect, it is specifically responsible for defining and regularly reviewing the OR strategy, ensuring that required conditions for Group-wide implementation of the strategy are in place and adopting measures for OR management at Group level.

The Risk-Bearing Capacity & Operational Risk Control unit is responsible for key components of OR control in the Deka Group. It is primarily responsible for selecting the methodology applied to OR management, for independent OR reporting and for specialist support of the infrastructure required to fulfil these responsibilities.

Risks are identified, measured and managed on a decentralised basis by various functions within the individual Group units. While the division heads are responsible for implementing the requirements specified in the OR strategy and the actual management of operational risks, OR managers are responsible for decentralised application of the methods developed, particularly with regard to ensuring consistent risk assessments. The OR managers are supported by assessors, who, as process experts, identify and evaluate OR loss scenarios as part of a self-assessment process, and by loss documenters.

**Cross-divisional functions**

In addition to the methods for which the central OR Control unit is responsible at the Deka Group, several specialised cross-divisional functions play an important role in identifying, assessing and managing operational risks.

In performing its duties, the Internal Audit corporate centre also uses information from the OR Control unit, such as risk scenarios and loss events, as supporting information for audit planning and preparation. In return, Internal Audit involves OR Control in its audit findings related to operational risk or loss events.

In the annual Fraud Prevention Forum, the Compliance corporate centre and OR Control collaborate closely – together with representatives of the business divisions and other corporate centres – to identify and assess scenarios regarding other criminal offences (such as employee fraud). OR Control, in its role as the Forum's sponsor, provides the Forum with information on loss events and identified fraud scenarios, and incorporates the assessments developed at the Forum into the OR records as scenario analyses.

The Data Protection Officer works towards ensuring compliance with laws and regulations regarding data protection in the Deka Group. This is done in particular by monitoring the proper use of data processing software used to process personal data. In addition, the Officer develops suitable measures to ensure that employees who process personal data are familiar with the provisions and special requirements of data protection.

The IT Security & Business Continuity Management unit provides support in the implementation of IT security requirements and is responsible for defining and implementing Business Continuity Management (BCM) across the Deka Group. BCM encompasses all emergency planning measures to protect the Deka Group against losses as a result of business process interruptions during emergencies and crises, and thus also serves to minimise operational risks.

#### **Methods used**

The Deka Group uses different methods for managing and controlling operational risks. Taken together, these methods, which are based on different approaches, provide a comprehensive view of both the current risk situation and expected risk trends.

The methods involve both a forward-looking (ex-ante) perspective, including self-assessment and scenario analysis, as well as a backward-looking (ex-post) perspective, contained in Group-wide loss documentation.

The self-assessment is based on detailed OR loss scenarios and is performed at least once a year. As well as describing and assessing risks with regard to their loss potential and the frequency with which they occur, the self-assessment process also identifies suitable measures to mitigate risk.

The scenario analysis serves as a detailed investigation and assessment of very rare OR loss events involving extremely large potential losses, which, due to their cross-unit nature and potentially high maximum loss potential, cannot be adequately identified via the self-assessment process. As part of this process, regularly-updated risk factors related to both the Group's internal controls and its business environment are incorporated into the assessment of scenarios. These factors therefore increase the sensitivity of the scenarios to risk and help to identify developments and determine management actions in a timely manner.

OR loss events are recorded in a structured manner with the help of a central loss database starting from a minimum gross limit of €5,000 at the Deka Group level. As well as providing a description of the loss, the database includes documentation that covers the causes of the loss and suitable measures to avoid similar cases in the future. Any expected mitigation of losses is only taken into account where the loss reduction is permissible under accounting rules. The findings of the loss documentation are used to validate the risk assessment contained in the self-assessments.

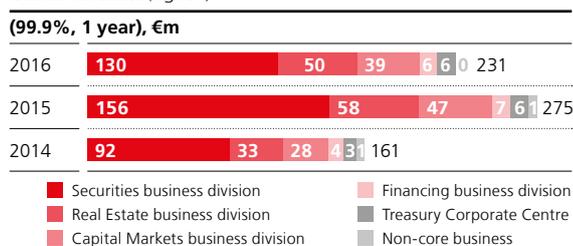
To determine the economic capital requirement for operational risks, the Deka Group uses an advanced measurement approach (AMA) that has been approved by regulatory authorities. This approach quantifies the Bank's operational risk based on a loss distribution approach, using methods set out in the approach itself and external loss data to supplement the data on internal losses. The value-at-risk figures thus identified are incorporated into both the regulatory capital and reserves requirement and the internal risk-bearing capacity analysis of the Deka Group. At the 2015 reporting date a general surcharge was still applied in the risk-bearing capacity analysis in

order to pre-empt the risk-augmenting effects of the planned model changes. However, this was no longer required at the end of 2016 since supervisory approval for the revised model had been obtained in the interim period, allowing the model to be applied as normal.

### Current risk situation

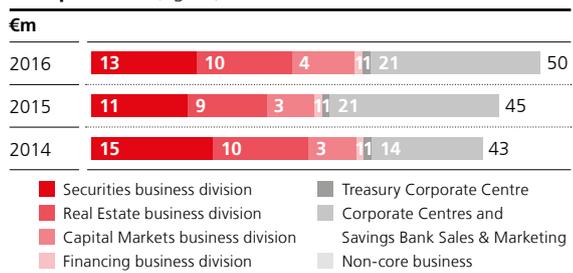
The VaR for operational risk (confidence level of 99.9%, holding period of one year) decreased from €275m at year-end 2015 to €231m. As expected, the first-time application of model changes resulting from previous validation reviews had the effect of increasing risk. However this was more than offset by the removal of the general surcharge applied for that purpose in the previous year amounting to €100m. Furthermore, the update to scenario assessments and analyses as part of the self-assessment process, as well as to external loss data, also made a contribution to the risk reduction. The utilisation of allocated risk capital remained at a non-critical level throughout the whole of the period under review.

Value-at-Risk (Fig. 31)



The OR loss potential identified in the Group-wide risk inventory recorded a moderate increase to €50m (end of 2015: €45m). The increase is partly attributable to the first-time incorporation of risk assessments for S Broker. It also reflects an awareness of increased risk, for example relating to the timely implementation of individual regulatory requirements, or risks related to the change in IT infrastructure provider during 2016 that have not yet been fully mitigated. In contrast to VaR, which is an upper limit for losses, with a specific probability that the limit will not be exceeded, loss potential is an expected value that results from the estimated frequency of occurrence and scale of losses of all OR scenarios in the Deka Group.

Loss potential (Fig. 32)



### Compliance

The Deka Group's Compliance corporate centre reports directly to the Board of Management and is designed so as to ensure that the Compliance function is durable, effective and independent. The Compliance department also carries out the compliance functions and the role of Money Laundering Officer for a number of regulated subsidiaries in Germany, under service level agreements. Compliance duties for Luxembourg-based companies are performed by the local Compliance unit in Luxembourg. The Responsible Officer position is held by the head of the Compliance corporate centre for relevant units in Germany and Luxembourg. The international offices in Japan and New York have local Compliance Officers who have a reporting line to the Compliance corporate centre.

The Compliance corporate centre is responsible for monitoring compliance with regulatory requirements arising under capital markets and investment law pursuant to the German Securities Trading Act (*Wertpapierhandelsgesetz – WpHG*) and the German Investment Code (*Kapitalanlagegesetzbuch – KAGB*). The corporate centre works to ensure that compliance requirements and regulations relating to capital market and real estate activities are adhered to.

In addition, the Compliance corporate centre fulfils requirements under the German Money Laundering Act (*Geldwäschegesetz – GwG*) and German Banking Act (*Kreditwesengesetz – KWG*), including ensuring that there are internal safeguards to prevent money laundering, terrorist financing and other criminal actions in accordance with section 25h (1) KWG by providing a "Central Office" within the Bank. The corporate centre is also responsible for monitoring compliance with financial sanctions and embargoes at both national and EU or UN level.

Furthermore, the Compliance department meets the requirements of MaRisk (German Minimum Requirements for Risk Management) regarding Compliance functions. In carrying out its duties, the Compliance unit advises and trains the specialist units on an ongoing basis. It carries out risk-based reviews regarding adherence to statutory and regulatory requirements related to compliance and to the overall compliance guidelines.

The Compliance unit also covers the requirements under Section 25a of the KWG and under MaRisk (AT 4.4.2 regarding the Compliance Function), as well as those arising under the QI regime (the "Responsible Officer" role). It is responsible for identifying and limiting compliance risks, and advising the Board of Management and the specialist units, particularly in connection with the implementation of effective processes and procedures to ensure adherence to significant legal regulations and requirements related to compliance. As part of this process, the Compliance unit carries out a risk analysis and assesses the procedures and controls established by the business units to determine whether they are appropriate and effective.

The Compliance Officer provides a written report on the activities of the organisational unit to the Board of Management on a regular basis, in accordance with legal requirements (at least once a year), and is also the point of contact for supervisory authorities and other governmental agencies. In addition, the Chairman of the supervisory board has the right to demand the immediate provision of information from the Compliance Officer, with the involvement of senior management.

The ongoing implementation and integration of compliance requirements in day-to-day business is intended to contribute to the transparent adherence to compliance standards as well as to reinforcing trust among investors and the public, and safeguarding customer interests. The compliance regulations also protect employees; they help to maintain the Deka Group's good reputation in the market and ensure that conflicts of interest are managed effectively.

#### **Accounting-related internal control and risk management system**

The Board of Management of the Deka Group has overall responsibility for the internal control and risk management system. The system is based on a Group-wide organisational and control structure. The Finance corporate centre is responsible for preparing and coordinating monthly, quarterly and annual financial statements. The units involved in the accounting process are appropriately staffed, in terms of both the number of personnel and their qualifications. Furthermore, a regular and cross-divisional exchange of information between the units makes an important contribution to minimising the risks associated with the preparation of financial statements.

In principle, risks exist in the accounting process as a result, for example, of inconsistent application of reporting and accounting standards, incorrect recognition of business transactions, and due to malfunctions and errors in the IT systems used for accounting purposes.

The Deka Group's internal control system ensures proper accounting in accordance with applicable statutory and legal provisions. Its key features are the rigorous integration of control activities and procedures into processes, in particular by applying the dual control principle as well as risk-oriented segregation of duties in corporate centres. To this end, the Bank performs automated routine checks and, when required, manual control and reconciliation procedures. The implementation of these activities and the procedures to be followed are documented in specialist and implementation plans.

Additional checks – for example in order to substantiate balance sheet items – are carried out at an aggregated level by "sub-position managers". These employees, who have in-depth product knowledge, are also responsible for regularly calculating results. The dual control principle applies here as well and is carried out by an employee with supervisory responsibilities.

The accounting recognition of business transactions is governed centrally by a Group accounting policy. This policy describes key accounting requirements and documents the standard accounting processes that apply throughout the Group. This ensures, amongst other things, that the same business transaction is accounted for uniformly in different Deka Group units and companies in compliance with the applicable accounting standards. Specific work instructions are used to implement Group policy at operational level in individual specialist

departments. These instructions also describe the control mechanisms to be followed. Guidelines and authorisation procedures have been developed for the central systems that generate accounting information as part of the preparation of financial statements. Compliance with these guidelines and concepts is regularly monitored by Internal Audit.

The Deka Group mainly uses standard software for accounting. The systems are safeguarded against unauthorised access by external parties and are comprehensively backed-up to protect against data loss. The internal control system is regularly reviewed by Internal Audit.

## **Liquidity risks**

### **Strategic framework and responsibilities**

Liquidity risk is managed and monitored as an independent risk category within the framework of the Deka Group's risk strategy. The liquidity risk strategy applies to all organisational units of the Deka Group. The strategy is specified by the Board of Management, reviewed at least once a year and discussed with the Administrative Board.

As liquidity risk is not an immediate risk to the Group's profit that can be cushioned with equity capital, it is managed outside the risk-bearing capacity analysis. The central objective of liquidity management is to avoid liquidity bottlenecks to ensure that the overall solvency of the Deka Group is guaranteed on a continuous basis. Risks impacting the income statement arising from refinancing gaps (liquidity maturity transformation risk) are currently not material because limits on liquidity balances in the funding matrix (FM) do not allow negative balances. In view of the ample levels of liquidity available to the Group overall, market liquidity risk is also not regarded as significant at present.

Within the risk management organisation, the Board of Management defines the Group's liquidity risk strategy, liquidity risk limits and early warning thresholds at Group level.

The Board of Management is supported by the MKR when fulfilling its management responsibilities regarding liquidity risk monitoring. This committee prepares decisions and makes recommendations (hereinafter referred to as "draft resolutions") that are presented for adoption to the Board of Management at the next Board meeting. The Liquidity Emergency Crisis Committee is convened in the event of a liquidity emergency. It may decide all measures judged necessary to ensure the short-term solvency of the Group and may instruct all units of the Deka Group to implement these measures. The Board of Management, as a permanent member with a voting right, is the core of this crisis committee.

Liquidity positions are managed centrally by the Treasury unit. As part of asset-liability management, structural liquidity is managed and monitored through funding matrices and via the charging of transfer pricing for funds. At the same time, the Treasury unit ensures that an adequate liquidity reserve of central-bank-eligible collateral is available. In addition, it is in charge of managing the Deka Group's liquidity reserve as well as controlling the level of liquidity ratios. Since the beginning of the reporting year, operational liquidity management across all maturities has been pooled in the Treasury corporate centre. This also covers money market transactions on the interbank market with savings banks, the Bundesbank or the ECB, with companies and with insurance companies and funds.

The liquidity position is analysed across the entire Group by the Risk Control corporate centre and monitored independently from the front office units in organisational and process terms.

## **Management and limit-setting**

### ***Funding matrices***

The purpose of the funding matrix is to show expected future cash flows across the portfolio as at the reporting date. The liquidity requirement (liquidity gap) or liquidity surplus is determined for each maturity based on these flows. In addition, freely available financial resources, such as realisable assets in the form of securities, over-coverage in cover registers and other sources of funding, are identified as potential liquidity on an aggregated basis. The liquidity balance for each maturity band is determined from the sum of the cumulative liquidity gap and

the cumulative liquidity potential. The balance is managed using a traffic light system comprised of early warning thresholds and limits. The liquidity balance must be positive in all monitored maturities.

The basis for the model is cash flows as indicated by legal maturities. This approach is based on the sum of all legal net cash flows per maturity band. Reconciliation between the amount from a legal perspective and expected cash flows is performed using modelling assumptions. Securities used for liquidity potential are allocated either to the liquidity buffer or to operational securities portfolios.

The liquidity buffer is used to cover possible stress-induced liquidity outflows from the banking book as well as stochastic liquidity outflows that cannot be influenced by the Deka Group or can only be influenced to a limited extent (stochastic liquidity position). As a component of the liquidity reserve, the liquidity buffer falls under the remit of the Treasury corporate centre. The minimum level required and currency composition of the liquidity buffer are determined by Risk Control on a quarterly basis. Treasury can independently propose a higher liquidity buffer above this level. The results are reported to the MKR. The Board of Management sets the level of the liquidity buffer based on the MKR's recommendation.

The operational securities portfolios comprise all freely available securities. These can be divided into securities that fall within the remit of the Capital Markets business division and portfolios that are allocated to the Treasury corporate centre as part of the liquidity reserve and which do not form part of the liquidity buffer.

As well as being used for normal business operations (going concern), liquidity matrices are also analysed under different stress scenarios. This ensures that even under stressed market conditions, an adequate liquidity reserve is maintained to cover any potential liquidity need.

The Deka Group primarily examines the "combined stress scenario" FM, which simulates the simultaneous occurrence of both the institution's own and market-wide stress factors. This FM fully implements MaRisk requirements. In addition, individual stress scenarios are examined separately in special FMs. These are subject to different modelling assumptions. Among other factors, market liquidity risks arising from a reduction in the market value of the securities in the liquidity potential are taken into account in the stress scenarios.

#### ***Liquidity ratios under the Liquidity Regulation and the Capital Requirements Regulation and Directive (CRR/CRD IV)***

Liquidity risk is also mitigated using the requirements of the German Liquidity Regulation (Section 11 of the KWG). The liquidity ratio pursuant to the Liquidity Regulation is calculated as the ratio of the Deka Group's short-term cash inflows to its outflows, with a maturity of up to one month. The ratio is monitored on a daily basis.

The liquidity coverage ratio (LCR), a regulatory indicator that represents the ratio of highly liquid assets to net liquidity cash flows under stress conditions, is also incorporated into the management of liquidity risk and actively managed. The use of a funds transfer pricing system for the source-specific allocation of liquidity and collateral costs also allows liquidity to be proactively managed and efficiently allocated.

#### ***Reporting***

The aforementioned FMs used for management and risk monitoring purposes are prepared daily by Risk Control as part of its independent monitoring process. The corresponding early warning thresholds and limits for the liquidity balance are also monitored. The liquidity situation is reported to the MKR on a monthly basis. The Administrative Board is informed on a quarterly basis. Any overruns of the limits are reported immediately to the Board of Management. Moreover, the liquidity ratios according to the Liquidity Regulation and the LCR are prepared daily in the reporting system of the Finance corporate centre and provided to monitoring units.

#### ***Current risk situation***

The Deka Group continued to have ample liquidity throughout the entire reporting year. There were clear positive liquidity balances in all relevant maturity bands of the "combined stress scenario" funding matrix for periods of up to 20 years. This is also the case for the alternative stress scenarios examined and under the going concern approach. The moderate decline in the liquidity balance in the earlier maturity bands reflects the

reduction in money market financing, which was offset by an increase in longer-term issues. There were no overruns of limits or early warning thresholds at any time during the year under review.

As in previous years, a substantial part of the Group's liquidity generation and provision was attributable to business with savings banks and funds. The Deka Group has a high liquidity potential that is readily convertible at short notice. The Group has access to a large portfolio of liquid securities, most of which are eligible as collateral for central bank borrowings, as well as to available surplus cover in the cover pool and corresponding repo transactions.

As at 31 December 2016, the accumulated liquidity balance of the Deka Group's "combined stress scenario" funding matrix in the short-term range (up to one week) stood at €4.6bn (end of 2015: €9.6bn). In the maturity band of up to one month, the liquidity surplus totalled €11.2bn (end of 2015: €9.3bn), and in the medium to long-term range (three months) it was €18.2bn (end of 2015: €14.1bn).

#### Combined stress scenario funding matrix of Deka Group as at 31 December 2016 (Fig. 33)

€m	D1	>D1-1M	>1M-12M	>12M-5Y	>5Y-20Y	>20Y
Liquidity potential (accumulated)	16,197	19,350	1,675	-216	-23	20
Net cash flows from derivatives (accumulated) <sup>1)</sup>	-177	-18	264	-2,330	-3,563	-3,570
Net cash flows from other products (accumulated)	-11,651	-8,136	17,740	18,057	10,491	3,138
<b>Liquidity balance (accumulated)</b>	<b>4,369</b>	<b>11,195</b>	<b>19,680</b>	<b>15,511</b>	<b>6,905</b>	<b>-412</b>
For information purposes:						
Net cash flows from derivatives by legal maturity (accumulated) <sup>1)</sup>	-177	-101	-917	-3,282	-4,142	-3,570
Net cash flows from other products by legal maturity (accumulated)	-9,644	-15,670	-13,064	2,160	3,051	2,521
<b>Net cash flows by legal maturity (accumulated)</b>	<b>-9,821</b>	<b>-15,771</b>	<b>-13,981</b>	<b>-1,122</b>	<b>-1,092</b>	<b>-1,049</b>

<sup>1)</sup> including lending substitute transactions and issued CLNs

As at 31 December 2016 around 56.2% of the Group's total refinancing related to repo transactions, money on call and time deposits, and other money market products. The high proportion represented by money market products – although the proportion did decline during the reporting year – is a result of the large volume of short-term business. The remaining 43.8% of refinancing related to capital market products, primarily with longer maturity profiles, with bearer bonds making up by far the largest proportion of this. In terms of its maturity structure, the refinancing profile for lending business was balanced. Most of the investors in money market refinancing are financial service providers such as clearing houses, stock exchanges and funds, or large banks and savings banks. Savings banks accounted for a share of 21.2% of money market refinancing, while funds represented 25.8%. This means that the Group's refinancing continued to be broadly diversified by investor group.

The regulatory requirements of the German Liquidity Regulation (*Liquiditätsverordnung* – LiqV) were met throughout the whole year under review. The average liquidity ratio at Bank level, determined on a daily basis, was 1.75 during the reporting period (previous year: 1.85). It fluctuated within a range of 1.62 to 1.89. The ratio stood at 1.73 at 31 December 2016 (end of 2015: 1.65). The LCR at Group level was 124.4% at the end of 2016, and was thus significantly above the 70.0% minimum level stipulated for 2016. Since 1 January 2017 the new regulatory minimum level of 80.0% has applied.

#### Business risk

The business risk strategy decided by the Board of Management serves throughout the Group as the basis for monitoring and managing business risks and incorporating them into the Group's risk-bearing capacity analysis. The Deka Group uses a range of complementary tools to analyse business risks depending on the importance of the respective business risk for the business division.

A value-at-risk approach is used in the risk-bearing capacity analysis. The modelling approach consists of two components and takes account of the fact that business risks – particularly in fund business – play an important role, while the main risks in banking business are counterparty and market price risk.

The significant risk factors for fund business in the Securities and Real Estate business divisions are levels of commission income and expenses, which vary in line with customer behaviour and the market environment. The volatility of these risk factors is simulated using reference indices, based on the asset class. Furthermore, an additional economic capital requirement, in the form of a standard surcharge, has been set up for activities in the other business divisions, and in order to ensure that the approach to determining risk is conservative. There are currently no business risks to be considered in the Treasury corporate centre and non-core business.

During the year under review, the VaR of business risk fell to €356m (end of 2015: €422m). In the Securities business division, lower volatilities in relation to equity and mixed funds helped in particular to reduce risk. In addition, the implementation of the results of the 2015 validation exercise brought about a minor decrease in risk. In the general surcharge there was also a reduction in business risk, which predominantly reflects decreasing counterparty and market price risks in the Capital Markets business division.

#### **Reputational risk**

Because of the way they affect the business, reputational risks are seen as a component of, or as factors that increase, other types of risk. Existing types of risk can be both a cause and an effect of reputational damage. The effects of reputational damage relate primarily to business risk and liquidity risk.

In accordance with the definition of reputational risk, it is initially determined, assessed, managed and reported on within the context of the individual risk types concerned. For instance, when conducting the self-assessment of operational risks, a systematic determination and qualitative assessment of reputational risks are also performed. At the same time, reputational risks are managed in connection with counterparty risks via blacklists and using an appropriate assessment as part of the credit approval process. Finally, when evaluating business risk, the risk of lower commissions due to the materialisation of reputational risks is taken into account.

#### **Other risks**

##### **Shareholding risk**

Equity investments (shareholdings) include all direct and indirect holdings of the Deka Group in other companies, regardless of their legal form. Equity investments held as credit substitute transactions fall under the credit risk strategy. In principle, Deka Group does not pursue any trading interests when taking an equity interest.

The basis for determining the shareholding risk position is the respective IFRS book value of the (unconsolidated) equity investment. The risk is measured on the basis of the volatility of a benchmark index from the equity market.

At the end of 2016, the VaR related to shareholding risk totalled €20m (end of 2015: €28m).

##### **Property fund risk**

Property fund risk results from property fund units held in the Bank's own portfolio. With a VaR of just €19m (end of 2015: €13m), it remains an immaterial risk for the Deka Group.

#### **Structured capital market credit products**

Structured capital market credit products comprise the securitisation portfolio of DekaBank's former Liquid Credits portfolio, which has not been considered to be strategic since 2009 and is being reduced while safeguarding assets. It is assigned to non-core business.

In terms of volume, this portfolio is no longer a significant part of DekaBank's overall portfolio, given that the business is being wound down. As a result of maturities and repayments, the net nominal value as at 31 December 2016 was only €319.2m (end of 2015: €416.8m).

At the end of the reporting period, 99.0% of the portfolio (end of 2015: 94.5%) consisted of investment-grade securities. The remaining portfolio continues to focus on western Europe. As at the end of 2016, 91.9% of the securitisations related to the European market.

Based on current expectations, around half of the remaining securitised positions will be repaid or will expire by the end of 2019.

Based on a confidence level of 99% and a holding period of ten days, as at the year end the credit spread risk for the securitisation positions in non-core business totalled €1.3m (end of 2015: €2.4m).